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Degrowth, green growth, a-growth and post-growth:

The debate on ways forward from our growth addiction

An annotated bibliography

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with students of ERST636

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Introduction

It is widely recognised that averting catastrophic climate change and ecological disaster requires society to relinquish the current growth-focused economic system. However, what this change might include and how it can be implemented is less clear. Different solutions have been envisioned, with advocates for variants of "green growth," "post-growth" or "de-growth" all presenting possible options for a new economic and social system that can exist within planetary boundaries.

This annotated bibliography includes a range of articles which engage with and critique these concepts, consider how they might work in practice and propose strategies for overcoming the obstacles to implementation. The papers were selected by Lincoln University postgraduate students taking the course ERST636: Aspects of Sustainability: an international perspective, in preparation for a class debate of the moot "Green growth is simply designed to perpetuate current unsustainable practices and divert attention away from the need for more fundamental change".

For each paper, the author's abstract is presented, followed by a discussion of key points. In cases where the paper lacked an abstract, a brief summary has been included instead. Key points and summaries are based on the students work, where necessary edited for clarity.

List of Articles

Capellán-Pérez, I., Mediavilla, M., de Castro, C., Carpintero, Ó., & Miguel, L. J. (2015). More growth? An unfeasible option to overcome critical energy constraints and climate change. *Sustainability Science, 10*(3), 397-411..... 15

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Dercon, S. (2014). Is Green Growth Good for the Poor? The World Bank Research Observer, 163-185. 18

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Gomez-Baggethun, E. and Jose, N. (2015). In search of lost time: The rise and fall of limits to growth in International Sustainability Policy. *Sustainability Science, 10*, 385-395. 23

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Lorek, Sylvia, & Spangenberg, Joachim H. (2014). Sustainable consumption within a sustainable economy – beyond green growth and green economies. *Journal of Cleaner Production, 63*, 33-44. 41

Machiba, T. (2010). Eco-innovation for enabling resource efficiency and green growth: development of an analytical framework and preliminary analysis of industry and policy practices. *International Economics and Economic Policy 7* (2-3), 357-370. 42

Marsiglio, S. (2015). Economic Growth and Environment: Tourism as a Trigger for Green Growth. *Tourism Economics, 21*(1), 183-204. 43

Matthey, A. (2010). Less is more: the influence of aspirations and priming on well-being. *Journal of Cleaner Production, 18*(6), 567-570. 44

Martinez-Alier, J. (2012). Environmental justice and economic degrowth: An alliance between two movements. *Capitalism Nature Socialism*, *23*(1), 51-73. 45

Missoni, E. (2015) De-growth and health: local action should be linked to global policies and governance for health. Sustainability Science, 10, 439-450. 46

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Nørgård, J.S., 2013. Happy degrowth through more amateur economy. *Journal of Cleaner Production*, *38*, 61-70. 48

Rees, William E. (2019). End game: the economy as eco-catastrophe and what needs to change. *Real-World Economics Review, 87*, 132-148. 49

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Trainer, T. (2020). De-growth: Some suggestions from the Simpler Way perspective. *Ecological Economics,* 167(106436). 53

Urmee, T., Anda, M., Chapman, A., & Anisuzzaman, M. (2017). Green Growth in cities: Two Australian cases. *Renewable Energy and Environmental Sustainability, 2*, 43. 54

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Aghion, P., Hemous, D. & Veugelers, R. (2009). No Green Growth Without Innovation. *Bruegel Policy Brief, 7*, 1-8.

Abstract

This Policy Brief, co-written by Senior Non-Resident Fellow Philippe Aghion, Senior Resident Fellow Reinhilde Veugelers and David Hemous of Harvard University, attempts to change the terms of the debate surrounding climate change policy. The authors argue that policymakers should do more to encourage innovation and investment in green research and development rather than focusing solely on the setting of a carbon price. Using a model developed by Aghion in a previous paper, they argue that a carbon price would have to be about 15 times higher in the first five years and 12 times higher in the next five years if innovation is not properly subsidized by governments. The authors also provide several policy recommendations for incentivising this type of green growth in the private sector.

Key Points

- There is an apparent apprehension about the adoption of green policies, much of which seems to be linked to the perceived short-term impacts on growth that less productive green technologies may have. This creates an incentive to continue business as usual and wait for green technologies to improve and increase in productivity compared to their “dirty” counterparts to minimise this impact. However, technological innovation rarely spontaneously takes place. Thus, for green technological innovation to take place there must be uptake of existing green technology and significant investment into research and development of these technologies.
- Price is typically the main driver for innovators given a choice between green and dirty technology options. In effect, this ensures that while dirty options have a comparative price advantage, they will be more likely to receive continued innovation as investors opt to support them instead of their green counterparts. Longer hesitation in transitioning to green alternatives results in greater growth cost as innovation (and investment) into current dirty technologies will continue at the same rate while they are in demand. Therefore, the performance benchmarks for green alternatives will continue to be set higher and higher, continually placing them out of reach.
- The principal means of redressing price advantage between green and dirty options has been the implementation of carbon taxation schemes. Investment into R&D technology would significantly reduce the transition gap between the short-term costs to growth and the long-term benefits.
- Any CO2 reductions will have global benefits, so nations will benefit whether or not they choose to adopt green technologies. Thus, there is a temptation for a country to continue business as usual and reap the benefits of higher growth and prosperity while the required green innovation is conducted by their peers. Poorer developing nations are unlikely to have the infrastructure in place to make significant contributions towards innovation. However, unilateral government intervention should reduce the cost of green solutions making them more attractive to poorer less developed nations.
- Carbon tax levels need to be set high enough to adequately incentivise green alternative technologies and greater investment and funding needs to go into R&D of green technology.

Alexander, S. (2012). Degrowth, expensive oil, and the new economics of energy. *Real-World Economics Review*, 61, 40-51.

Abstract

In order to grow, industrial economies require a cheap and abundant supply of energy, especially oil. When the costs of oil increase significantly, this adds extra costs to transport, mechanised labour, and industrial food production, among many other things, and this pricing dynamic sucks discretionary expenditure and investment away from the rest of the economy, causing debt defaults, economic stagnation, recessions, or even longer-term depressions. That seems to be what we are seeing around the world today, with the risk of worse things to come. Since crude oil production has been on an undulating plateau since 2005 while demand has increased, this has put huge upward pressure on the price of oil, and several commentators have drawn the conclusion that these high oil prices signify the end or at least the twilight of economic growth globally. If the world is to deal effectively with the ecological and economic problems it is facing, we urgently need to infuse a new economics of energy into our economic thinking and economic systems, both at the local and macro-economic levels.

Key Points

- Economic growth requires cheap energy production, but oil production is stagnating while demand is continuing to rise. Oil prices will increase, but it is not clear that our economies can function on oil prices much above a certain price per barrel or when total oil expenditure exceeds roughly 5.5% of GDP. There is an important relationship between energy, debt, and economic growth – debts require growth to maintain interest rates.
- However, the strong correlation of cheap energy and growth will presumably not hold, as supplies of cheap fossil fuels are decreasing while worldwide fossil fuel energy consumption remains at around 80% of overall energy consumption. Renewables, on the other hand, require fossil fuels to be set up and to be produced. The per-capita energy consumption of sustainable energy is most likely to decline due to increasing population, while fossil fuel consumption drastically exceeds the planet's capacity already.
- A post-carbon economy is unfeasible while governments and leaders have short-term incentives to stick to the old-fashioned economic models of growth. Furthermore, less money is invested in infrastructure that would boost a decrease in oil consumption. The longer the current system, reliant on cheap oil, is in place, the harder it becomes to transition towards a low-carbon society.
- Changes to economic systems should occur on a community level and personal level. Voluntary transitions towards degrowth on a community level leads towards the decoupling of debt and growth as well as energy and growth to enhance resilience to economic shocks.

Asara, V., Otero, I., Demaria, F., & Corbera, E. (2015). Socially sustainable degrowth as a social–ecological transformation: Re-politicizing sustainability. *Sustainability Science, 10*(3), 375-384.

Abstract

The paper discusses the intellectual origins of degrowth to explain how sustainability is understood within this paradigm. Special attention is paid to the social and ecological limits to growth and to the social–ecological transformation envisioned by the degrowth paradigm. It concludes by stressing the contribution of degrowth to sustainability science and practice, and argues for a re-politicization of the science and practice of sustainability

Key Points

- Social–ecological–economic crises have been created by the incessant promotion of growth despite obvious and existing systemic limits, and further propagated by creation of debt to allow for growth. The acceptance and the naturalization of the growth model as the norm and only option to address sustainability has further cemented this.
- Problematizing the growth model highlights the paradox between economic growth and sustainability – the former is the cause of the current social and environmental degradation and the transgression of planetary boundaries.
- Wealth concentration and inequalities have increased in the last fifty years and the financial collapse in 2008 was only rescued by public bailouts of private banks.
- The degrowth model is characterized by an emphasis on being 'different' as opposed to 'less'. It has been defined as "*an equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions at the local and global level, in the short and long term.*''
- It encompasses concerns about democracy, justice, meaning of life and wellbeing. It aims to bring about the re-politicization of the growth model by bringing back the debate on the relationships between sustainability, economy and society, and to advance a new vision of social–ecological transformations.
- This would entail a complete and radical transformation in the thinking in economization and commodification; behaviour change in consumerism and utilitarianism; questioning of the anthropological, political, cultural and institutional premises of growth economics among others.

Barbier, E.B. (2016). Is green growth relevant for poor economies? *Resource and Energy Economics, 46*, 178-191.

Abstract

To be relevant to developing countries, green growth must be reconciled with the two key structural features of natural resource use and poverty in these countries. First, primary products account for the majority of their export earnings, and they are unable to diversify from primary production. Second, many economies have a substantial share of their rural population located on less favoured agricultural land and in remote areas, thus encouraging “geographic” poverty traps. If green growth is to be a catalyst for economy-wide transformation and poverty alleviation in developing countries, then it must be accompanied by policies aimed directly at overcoming these two structural features. Policies and reforms should foster forward and backward linkages of primary production, enhance its integration with the rest of the economy, and improve opportunities for innovation and knowledge spill overs. Rural poverty, especially the persistent concentration of the rural poor on less favoured agricultural lands and in remote areas, needs to be addressed by additional targeted policies and investments, and where necessary, policies to promote rural-urban migration.

Key points

- Green growth may undermine developing countries’ immediate needs for economic growth and development. Many developing economies implementing green growth are faced by challenges brought by a large informal economy, high levels of poverty and inequality, weak capacity and resources for innovation and investment, and inadequate governance institutions.
- The concepts underpinning green growth are based on perspectives that promote poverty reduction, economic growth and secure livelihoods. These include the Keynesian (mitigate short-term macroeconomic fluctuations), Pigouvian (implement market-based instruments), Schumpterian (innovation and research) and Georgian (mitigate resource scarcity) perspectives. Pursuing these approaches will require trade-offs between short-term economic goals and long-term environmental goals.
- Resource dependence and distribution of rural poor communities in less productive lands are two key features of underdevelopment. In many low and middle-income countries, development is primarily resource dependent. More resource-dependent economies have lower levels of GDP and income and higher poverty rates. Rural poor demographics also tend to live in resource-scarce areas.
- For green growth to be relevant in developing countries, key structural features of natural resource use and poverty must be acknowledged. A transition to green growth will need policies that coincide with development priorities. Sound economic policies and public investments targeted at poverty can lead to sustained economic growth.
- Suggestions include resource-enhancing technological change in primary production activities; strong forward and backward linkages between resource-based and primary production sector and the rest of the economy; and substantial knowledge of spillovers in primary production and across resource-based activities.

Boonstra, Wiebren J, & Joosse, Sofie. (2013). The Social Dynamics of Degrowth. *Environmental Values, 22(*2-SI), 171.

Abstract

Degrowth cannot happen in a capitalist society, but it can—and must—spawn from it. Societal values and social constructs do not happen from a blank slate, but rather reincarnations of a previous state (i.e. aristocracy to democracy). Degrowth is not an end state; it is a transitional one to get from capitalism to a steady state economy. The authors look at definitions of degrowth, sociological ideas about how degrowth can happen, and use current food production and social norms to illustrate what success could look like.

Key Points

- Degrowth differs from conventional ideas about sustainable development because it calls for the global economy to de-accelerate. In other words, GDP needs to contract, therefore shrinking economies.
- Leaving capitalism to run its course will inevitably lead to ecological collapse and continue to erode social and moral fabrics needed to transition to an alternative form of society.
- Several policy proposals have surfaced in scientific literature as to how degrowth and a general downscaling of economies might be achieved, leading to local currencies and local self-reliance.
- Long periods of stability often have slow incremental changes housed within them. In contrast, transformation comes through in a short and abrupt phase.
- There are three different social mechanisms that lead to social stability: technological, institutional and cognitive mechanisms.
- There are two sources of indeterminism. First, social practices are a result of agency—choices, routines and habits—which are autonomous. Second, social actions result in unanticipated and unintended consequences.
- Using the food system and social norms, the authors look at how technological, institutional and cognitive mechanisms play a role in the stabilization of production and consumption patterns.
- Technology enables the mass production of food, and therefore influences the way that society thinks about having items available in abundance and all year round.
- Food localization is central to the idea of degrowth – food is produced in the place it is consumed. One large farm, for example, would grow three crops or rotate crops and sell locally, instead sticking to one crop (year after year) and shipping it far away.
- The answer to degrowth could be in a “hybrid” model where some of the same social mechanisms keeping the current model stable are instead used to drive new social practices that result in change. The author notes that most consumers (even ‘moral’ or ‘green’ consumers) do not radically break with the capitalist economy. People often have one foot in a capitalist economy, and the other foot in an urban garden or buying club.

Brossmann, J. and Islar, M. 2019. Living degrowth? Investigating degrowth practices through performative methods. *Sustainability Science 15*, 917–930.

Abstract

Degrowth scholarship argues for multi-scalar transformations beyond the growth-oriented economic paradigm to achieve long-term socio-ecological sustainability. While the literature on degrowth has grown substantially, little has been said about how these transformations are understood in practice. By drawing upon practice theory and using performative methods, this paper explores the ways in which degrowth scholars and practitioners experience and understand degrowth. It provides a preliminary account of living degrowth by portraying a diverse range of interrelated practices grouped in five spheres: (1) rethinking society, (2) acting political, (3) creating alternatives, (4) fostering connections, and (5) unveiling the self. Drawing upon the spheres of practices, we conceptualize living degrowth as an endeavour that aims to transform current problems into imagined futures in multiple realms. The practices of living degrowth are concerned with theoretical, political, material, economical, social and personal dimensions of world and life. This points to the importance for sustainability science to investigate and foster transformations in all domains and at all levels, reaching from the outer to the inner and vice versa.

Key Points

- The authors conceptualise “living degrowth” as a transformative endeavour which acts as a bridge between current problems of social inequality and ecological destruction, and an attempt to realise an imagined future of socio-ecological sustainability.
- A model is proposed composed of four dimensions they consider important in discussing “living degrowth”:
  - Individual: highlighting the subjects who engage and act as agents of transformations; understanding their motivations, their (personal) struggles and what supports them.
  - Performative: looking at practices (realized in distinctive sayings, doings and relatings), through which agents are active in the world and want to achieve transformations.
  - Collective: seeing humans first and foremost as social beings, who are living and learning through participating in practices of social communities.
  - Structural: acknowledging that subjects never conduct (transformative) actions in isolation, but in already existing sites which are constituted by cultural–discursive, material–economic and social–political arrangements.
- The empirical research revealed practices that were grouped under five spheres: Rethinking society, creating alternatives for the future, acting political, fostering connections and unveiling the self. These were aligned with the authors’ model to illustrate the transformative process from current problems to imagined futures with related practice spheres and guiding questions.
- Illustrating the wide range of practices connected to degrowth and understanding them from a subjective perspective may contribute to overcoming narrow, one-sided either/or approaches to what needs to be done and to what degrowth means, as diverse strategies can be compatible and important for transformations.

Büchs, M. and Koch, M. (2019). Challenges for the Degrowth Transition: The Debate about Wellbeing. *Futures*, *105*, 155-165.

Abstract

Degrowth scholars and activists have convincingly argued that degrowth in developed nations will need to be part of a global effort to tackle climate change, and to preserve the conditions for future generations' basic needs satisfaction. However, the barriers to building a broader degrowth movement appear to be very entrenched at present. To improve the political feasibility of degrowth it is important to better understand these structural obstacles and develop arguments and strategies to address them. To contribute to the degrowth debate we focus in this paper on current generations in rich countries and their concerns about possible short- to medium term wellbeing outcomes of degrowth. In particular, we highlight the 'growth lock-in' of current societies and how a transition away from this model might therefore affect wellbeing. We also argue that taking the basic human needs framework as a new 'measuring rod' for wellbeing outcomes is suitable for a degrowth context, but likely to clash with people's current expectations of ever improving health and wellbeing outcomes. We propose that deliberative forums on future needs satisfaction can help establish a 'dialogue' between current and future generations which could support cultural shifts on wellbeing thinking which will be much needed for advancing the cause for degrowth.

Key Points

- Economic growth is one of the main drivers for rising emissions and increasing depletion of non-renewable resources. Transition to degrowth must be part of the global strategy to combat climate change.
- However, there are structural barriers to the political feasibility of degrowth, as fundamental social transformation is required. These structural barriers can be framed in terms of intergenerational conflicts around wellbeing and needs satisfaction, where current generations' concerns about possible negative wellbeing implications from degrowth represent an important reason for a lack of political support for this movement to date.
- The degrowth debate often draws on arguments for that degrowth can increase subjective wellbeing, citing the disconnect between GDP and wellbeing. The authors note that this may be due to methodological issues, and that degrowth could have negative implications for wellbeing stemming from loss aversion (short term) or decrease in living standards (long-term).
- Objective wellbeing concepts and measures may be more suitable to understand the relationship between degrowth and wellbeing.
- It has convincingly been argued that many of people's "real" needs (e.g. meaningful relationships and work) can be achieved with low resource inputs. The challenge for the degrowth transition will be that other social and cultural systems that have co-evolved with the growth economy need to transform in tandem if wellbeing is to be maintained. It is not yet well understood how this can be organised and what wellbeing implications this transition may have.
- A better understanding of the structural sources of potential short-term wellbeing losses from degrowth is required to improve the political feasibility of degrowth.
- A change in collective meanings and understandings of wellbeing can play an important role for decoupling current dynamics between growth and wellbeing.

Coscieme, L., Sutton, P., Mortensen, L.F., Kubiszewski, I., Costanza, R., Trebeck, K., Pulselli, F.M., Giannetti, B.F. and Fioramonti. L. (2019). Overcoming the Myths of Mainstream Economics to Enable a New Wellbeing Economy. *Sustainability*, *11*, 4374.

Abstract

Increasingly, empirical evidence refutes many of the theoretical pillars of mainstream economics. These theories have persisted despite the fact that they support unsustainable and undesirable environmental, social, and economic outcomes. Continuing to embrace them puts at risk the possibility of achieving the Sustainable Development Goals and overcoming other global challenges. We discuss a selection of paradoxes and delusions surrounding mainstream economic theories related to: (1) efficiency and resource use, (2) wealth and wellbeing, (3) economic growth, and (4) the distribution of wealth within and between rich and poor nations. We describe a wellbeing economy as an alternative for guiding policy development. In 2018, a network of Wellbeing Economy Governments (WEGo), (supported by, but distinct from, the larger Wellbeing Economy Alliance—WEAll) promoting new forms of governance that diverge from the ones on which the G7 and G20 are based, has been launched and is now a living project. Members of WEGo aim at advancing the three key principles of a wellbeing economy: Live within planetary ecological boundaries, ensure equitable distribution of wealth and opportunity, and efficiently allocate resources(including environmental and social public goods), bringing wellbeing to the heart of policy making, and in particular economic policymaking. This network has potential to fundamentally re-shape current global leadership still anchored to old economic paradigms that give primacy to economic growth over environmental and social wealth and wellbeing.

Key Points

- Economic theory is not always rational and usually has various paradoxes/delusions – e.g. that growth is desirable and addresses issues such as poverty despite contrary evidence. The Easterlin paradox finds that human well-being does not grow as GDP/capita increases after reaching a certain threshold. The Lucas Paradox finds that capital does not flow from rich to poor countries as is a common mainstream economic view – it usually flows from rich to rich or from poor to rich (real world implications of globalisation).
- Economic growth is usually correlated with worsening environmental conditions. Mainstream economic approaches to climate change focus on technology efficiency and neglect that implementation of policy is needed to address consumer behaviour to enact change. Developed countries delocalise environmental impacts by outsourcing production and importing goods. This relocates resource use and environmental degradation to other countries and pushes the earth towards planetary boundaries.
- Taken together, these paradoxes and delusions alert us to the negative outcomes of economic “growth at all costs.” They show us that economic growth is not synonymous with increasing wellbeing and prosperity and that the logic of economics needs a fundamental transformation away from its focus on producing and consuming marketed goods and services to a broader focus on sustainable wellbeing as the goal of development.
- Mainstream economics (though consistently flawed) is still the leading choice for policy makers. A wellbeing economy can deliver greater prospects, i.e. live within planetary boundaries, achieve environmental sustainability, equitable distribution of wealth and opportunities, and efficient use of resources.
- Initiatives already exist at international and regional levels to move economic leadership towards a focus on wellbeing, and more national and global policies must take this route.

Capellán-Pérez, I., Mediavilla, M., de Castro, C., Carpintero, Ó., & Miguel, L. J. (2015). More growth? An unfeasible option to overcome critical energy constraints and climate change. *Sustainability Science, 10*(3), 397-411.

Abstract

Growing scientific evidence shows that world energy resources are entering a period shaped by the depletion of high-quality fuels, whilst the decline of the easy-to-extract oil is a widely recognized ongoing phenomenon. The end of the era of cheap and abundant energy flows brings the issue of economic growth into question, stimulating research for alternatives as the de-growth proposal. The present paper applies the system dynamic global model WoLiM that allows economic, energy and climate dynamics to be analyzed in an integrated way. The results show that, if the growth paradigm is maintained, the decrease in fossil fuel extraction can only be partially compensated by renewable energies, alternative policies and efficiency improvements, very likely causing systemic energy shortage in the next decades. If a massive transition to coal would be promoted to try to compensate the decline of oil and gas and maintain economic growth, the climate would be then very deeply disturbed. The results suggest that growth and globalization scenarios are, not only undesirable from the environmental point of view, but also not feasible. Furthermore, regionalization scenarios without abandoning the current growth GDP focus would set the grounds for a pessimistic panorama from the point of view of peace, democracy and equity. In this sense, an organized material de-growth in the North followed by a steady state shows up as a valid framework to achieve global future human welfare and sustainability. The exercise qualitatively illustrates the magnitude of the challenge: the most industrialized countries should reduce, on average, their per capita primary energy use rate at least four times and decrease their per capita GDP to roughly present global average levels. Differently from the current dominant perceptions, these consumption reductions might actually be welfare enhancing. However, the attainment of these targets would require deep structural changes in the socioeconomic systems in combination with a radical shift in geopolitical relationships.

Key Points

- All scenarios based on the currently dominating growth paradigm are clearly unfeasible. Therefore, the only scenarios that seem able to avoid critical energy constraints and dangerous climate change are the no-GDP-growth focus scenarios.
- The authors suggest specific guidelines for future energy development, including a higher share of renewable energy, reduction of the Total Primary Energy Supply (TPES), radical transformation of the transportation sector, and spreading the TPES per capita from its current markedly unequal levels.
- Consumption levels of industrialized countries would need to substantially shrink to allow for an expansion in southern countries. These “sufficiency-oriented” reductions could be welfare-enhancing in the long-term if technological development is accompanied by social innovation and cooperation to trigger a change in the whole socioeconomic system.
- The authors’ approach has analyzed the socioeconomic system as if the only critical factors were energy scarcity and climate alteration, and an array of interconnected issues are not considered (e.g. nitrogen and phosphorus cycle disturbance, biodiversity loss, etc.).

Daly, H. (2019). Growthism: its ecological, economic and ethical limits. *Real-World Economics Review*, *87,* 9-22.

Abstract

We have many problems – poverty, unemployment, environmental destruction, climate change, financial instability, etc. – but only one solution for everything, namely economic growth. We believe that growth is the costless, win-win solution to all problems, or at least the necessary precondition for any solution. This is growthism. It now creates more problems than it solves.

Key Points

- The author critiques the term "circular economy," which he notes either suggests the closed cycle of the flow of exchange between households and businesses, excluding the physical environment, or which can be used to describe an economy that recycles material natural resources to a high degree, increases product lifetimes, and uses mainly renewable resources.
- This increased resource efficiency is known as "decoupling," a path which the author suggests would lead us back to this notion of the economy as an isolated system at its limits.
  These concepts, while beneficial, will not achieve sustainability, as they overstate the degree that production can be separated from resource throughput. Recycling is limited, first because it requires energy to recycle materials; and secondly, because energy itself cannot be recycled.
- Sustainable growth in the physical scale of the economic subsystem relative to the biosphere is an unrealistic quest. If the "circular economy" depends on the natural biophysical cycle powered by the sun and does not grow on a scale beyond the regenerative capacity and absorptive capacity of the containing biosphere, then it approaches a steady-state economy – not an economy of sustainable growth.
- Globalization driven by growth will maximize economic engagement between countries in the pursuit of trade profits, monopoly power, privatize the rest of shared property, especially knowledge, and concentrate income to extreme levels. It is high individualism rather than the embodiment of the world community.
- The key to understanding globalization is to distinguish it from internationalization. Internationalization refers to the increasing importance of relations between nations: international trade, international treaties, alliances, protocols, etc. Globalization refers to global economic integration of many formerly national economies into one global economy by free trade and increased mobility.
- "Parachute" policies, which limit aggregate throughput while allowing the market to allocate that throughput, are necessary. These policies can be described as "frugality first." They induce efficiency and are therefore more effective than "efficiency first" strategies which can lead to increased consumption of a resource (the Jevons effect).
- Effective policies require both the belief that there are real alternatives and that there are effective criteria of value by which to choose.

Demaria, F., Schneider, F., Sekulova, F., Martinez-Alier, J. (2013) "What is Degrowth? From an Activist Slogan to a Social Movement" *Environmental Values 22,* 191-215.

Abstract

Degrowth is the literal translation of "decroissance", a French word meaning reduction. Launched by activists in 2001 as a challenge to growth, it became a missile word that sparks a contentious debate on the diagnosis and prognosis of our society. "Degrowth" became an interpretative frame for a new (and old) social movement where numerous streams of critical ideas and political actions converge. It is an attempt to re-politicise debates about desired socio-environmental futures and an example of an activist-led science now consolidating into a concept in academic literature. This article discusses the definition, origins, evolution, practices and construction of degrowth. The main objective is to explain degrowth's multiple sources and strategies in order to improve its basic definition and avoid reductionist criticisms and misconceptions. To this end, the article presents degrowth's main intellectual sources as well as its diverse strategies (oppositional activism, building of alternatives and political proposals) and actors (practitioners, activists and scientists). Finally, the article argues that the movement's diversity does not detract from the existence of a common path.

Key Points

- Degrowth is conceptualised as a frame constituted by a large array of concerns, goals, strategies and actions. An interpretative frame can act as a mechanism for diverse actors to engage in collective action, enhancing solidarity between disparate interests. Actors working on a given problem, through the frame of degrowth, can demonstrate its links and relevance to wider processes, events and conditions impacting other groups.
- The authors identify six sources or streams of thought grouped under the degrowth umbrella:
  - Ecology (emphasises the intrinsic value of ecosystems and the competition they face from industrial production and consumption, and challenges the idea that "decoupling" ecological impacts and economic growth is possible
  - Critiques of development and praise for anti-utilitarianism (considers "sustainable development" an oxymoron and critiques *homo economicus*)
  - Meaning of life and wellbeing
  - Bioeconomics (EROI arguments, criticises ecological modernisation and technological fixes)
  - Democracy (calls for deeper democracy, but debates how far we need to reform our institutions)
  - Justice (explores ways to make justice and sustainability compatible; argues for large-scale distribution, sharing and reduction of excessive incomes and wealth for the rich classes in both North and South).
- Degrowth only makes sense when all the sources are taken into account. Taken independently they can lead to incomplete and reductionist projects which are fundamentally incompatible with the ideas of the degrowth movement. For example, being concerned with resource scarcity but not with justice can lead to top-down anti-population and anti-immigration discourse.
- While many of the strategies and actors involved in the movement can seem to be in conflict, there is potential for compatibility among strategies and for strategies to be combined along timescales.

Dercon, S. (2014). Is Green Growth Good for the Poor? The World Bank Research Observer, 163-185.

Abstract:

The developing world is experiencing substantial environmental change, and climate change is likely to accelerate these processes in the coming decades. Due to their initial poverty and their relatively high dependence on environmental capital for their livelihoods, the poor are likely to suffer most due to their low resources for mitigation and investment in adaptation. Economic growth is essential for any large-scale poverty reduction. Green growth, a growth process that is sensitive to environmental and climate change concerns, can be particularly helpful in this respect. We focus on the possible trade-offs between the greening of growth and poverty reduction, and we highlight the sectoral and spatial processes behind effective poverty reduction. High labour intensity, declining shares of agriculture in GDP and employment, migration, and urbanization are essential features of poverty-reducing growth. We contrast some common and stylized green-sensitive growth ideas related to agriculture, trade, technology, infrastructure, and urban development with the requirements of poverty-sensitive growth. We find that these ideas may cause a slowdown in the effectiveness of growth to reduce poverty. The main lesson is that trade-offs are bound to exist; they increase the social costs of green growth and should be explicitly addressed. If they are not addressed, green growth may not be good for the poor, and the poor should not be asked to pay the price for sustaining growth while greening the planet.

Key Points

- Environmental change affects the poor disproportionately, while growth is essential for the reduction of poverty. Green growth's promise of a rapid route out of poverty is not plausible and it may be a less rapid exit then conventional growth strategies. However, conventional strategies are more likely to cause environment harm.
- To sustain growth, green growth needs to be weighed in its ability to reduce poverty. To sustain poverty reduction, green growth may need to give up some environmental benefits. It is hard to find the balance, as poverty reduction is necessary to give the poor more resilience to the changing environment.
- There are three elements which are essential for green growth policies to benefit the poor: regulations and pricing to internalize environmental capital costs; low-carbon and other environmental public investments; and the adaptation of green and other resilience-enhancing investments addressing climate change.
- Four elements for assessing a green growth strategy in its effectiveness to reduce poverty are offered: 1) Efficiency is increased by internalizing environmental externalities; 2) it is labour intensive, as labour is the main asset of the poor; 3) whether it contributes to transformation of the livelihoods and sectors of employment of the poor, as most of the poor are either engaged in agriculture or in low-return informal sector self-employment; 4) how it contributes to the spatial transformation of economies during growth and how it affects the opportunities for poverty reduction from internal migration and urbanization.

Douthwaite, R. (2012). De-growth and the Supply of Money in an Energy-Scarce World. *Ecological Economics 84,* 187-193.

Abstract

De-growth is going to happen whether governments want it or not because, as fossil fuels run out, incomes will shrink along with the energy supply. This de-growth can either be unplanned and catastrophic or managed and relatively benign. This paper argues that three tools are essential to avoid de-growth becoming a catastrophic collapse. These are: (i) a system to share the benefits from using increasingly scarce fossil fuels; (ii) new ways of financing businesses; and (iii) the introduction of debt-free regional and local currencies.

Key points

- The declining supplies of fossil fuel resources will force de-growth upon richer countries, with the only choice now being how the resulting contraction of economies will be managed.
- Declining oil supplies are linked to reduced incomes and outputs. The global financial crisis highlights the problems with the world's economic model and the associated imbalance in credit to debt ratios, which are particularly pronounced in advanced countries.
- A total reconstruction of the money-using financial system is required if we are to escape a human, societal and economic disaster arising from the world's current economic model and its reliance on carbon-based fuels.
- The inevitable transition to a lower energy economy will be extraordinarily painful unless equitable, locally and regionally controllable monetary alternatives are established.
- Douthwaite identifies three responses the current economic model requires to cope with the inevitable consequences of de-growth:
    - Limiting the price paid to fossil fuel producers by introducing a Global Climate Trust to operate a cap and share system to replace the 'market'.
    - Ending debt-based money by developing user-based currencies managed at regional rather than national or multi-national scales.
    - New ways of borrowing and financing will be necessary. An example of this might be currency, which is backed by the promise to deliver a set amount of kilowatts of energy.
- Uncertainty remains around how governments and entities, such as the IMF, would accept alternative economic models where they would lose substantial revenue and control.
- Similarly, natural resources are currently commodities for private global entities, whose power would need to be removed to enable de-growth responses to be employed effectively.

Drews, S., & Antal, M. (2016). Degrowth: A “missile word” that backfires? *Ecological Economics*, *126*, 182–187.

Abstract

Language use and cognition are generally underappreciated topics in ecological economics, even if effective communication is essential for social and political impact. To challenge the economic growth paradigm, the concept and term “degrowth” has recently been embraced by various activists and scholars. Drawing on a body of evidence from cognitive science, psychology, and related fields, we argue that using the word *degrowth* might be disadvantageous in public communications about alternatives to growth. We begin by reviewing arguments in favour of the term. Then we outline three main counterarguments: First, degrowth has a downward orientation which triggers negative initial feelings due to the basic conceptual metaphor “up is good—down is bad”. This puts advocates of an alternative to the growth paradigm in an unfavourable starting position, given that subsequent thought will be unconsciously biased by the initial feeling. Second, more conscious reactions are likely to be negative as well because people unfamiliar with the term will (mis)interpret it as a contraction of the economy, even though it is not always meant as such. Third, degrowth repeats and possibly strengthens the growth frame and may activate undesirable frames associated with economic recessions. To conclude, we briefly discuss alternative terms and summarize key aspects to be considered for more effective communication.

Key Points

- Humans are not wholly rational – opinions are shaped by feelings and unconscious impressions. Thus, language and terminology are crucial to create acceptance for change.
- A movement away from economic growth towards sustainable practices will only be triggered by a concept that is widely accepted and positively perceived rather than merely thought-provoking and rebellious. De-growth is unlikely to achieve this due to its negative connotations.
- Suggested alternative terms include: Post-growth, beyond growth, agrowth, prosperity without growth. Other terms refer to different types of economies, such as green economy, sustainable economy, new economy, steady-state economy; or broader slogans such as good life, better life, great transition, or simple prosperity. All of these terms carry their own drawbacks.
- Slogans which do not refer to growth or even the economy, but which emphasise positive aspects that the growth strategy lacks (e.g. being equitable, humane, sustainable, and joyful) can lead people to question automatic positive associations and attitudes towards economic growth. However, these slogans then cannot build off the popularity of the growth frame so may garner less attention.
- It is necessary to construct a broader and more coherent narrative—possibly structured around metaphors of good life and increased freedom through “independence from economic growth”—that can generate public interest and support.

Fullbrook, E. (2019). Economics 101: Dog barking, overgrazing and ecological collapse. *Real-World Economics Review, 87*, 33-35.

Summary

The existence of the modern global society is deeply threatened by our economy, and we have reached a state where the collapse of our civilization is very likely. Mainstream economic thinking refuses to acknowledge the significant causal connection running from our economy to the ecosphere. Instead of acknowledging that the environment is the base for all economic development and human wellbeing, economic thinking treats the impact on it as a negative externality. At the beginning of mainstream economic teaching the impacts on the environment were marginal and therefore reasonable to treat as an externality, which isn´t possible at all any longer. Scientists discovered the fundamental and irreversible changes that the economy has wrought upon the natural environment 50 years ago, but the fundamental assumptions of economics have remained unchanged. "Environmental economics" remains ignored by 90% of economists and nearly 100% of classrooms. The world's most used economics textbook, Mankiw´s Principles of economics, is wholly devoid of 11 key and commonly used terms regarding the economy's impact on the ecosphere (such as biosphere, ecosystem, climate change and threshold), and describes environmental degradation by comparing it to overgrazing in the Middle Ages. This viewpoint stands in stark contrast to the views of climatologists, who warn that human economic activities affect the whole functioning of the ecosphere to a degree that threatens its ability to continue as we know it. It is because humanity has engaged with today's Economics 101 fantasy – that the connection between the ecosphere and the economy is unidirectional – that we are now in this dire threshold situation. The longer this indoctrination continues, the more likely it is that disaster will occur.

Key Points

- Global human civilizations are at high risk of collapse through ecological breakdown.
- Mainstream economic thought does not acknowledge the economy's dependence and impacts on the ecosphere, and therefore the basic theoretical structure of the economics that is taught to millions of university students every year will not accommodate the bidirectional causal link between the economy and the ecosphere.
- At the time of the founding of these economic principles, the human influence on the environment was far smaller and global connections were not recognized as they are today. Former neglectable "externalities" are now climate catastrophe and biodiversity loss which threaten the stability of ecosystems and therefore civilization.
- Climatologists are calling urgently for "a new paradigm that integrates the continued development of human societies and the maintenance of the Earth system (ES) in a resilient and accommodating state."
- Classical economic theories do not account for the impacts/externalities on the ecosphere and still teach old assumptions, which have been criticized by natural sciences for decades.
- Current economic thought is both wrong and powerful, and is tantamount to a crime against humanity in its destructive potential.

Gerber, J. (2015). An overview of local credit systems and their implications for post-growth. *Sustainability Science,* 10 (3), 413-423.

Abstract

Credit and debt are bound to play a central and challenging role in a post-growth economy, seen as an economy that seeks to stabilize or downscale production and consumption for more well-being and sustainability. This is so because on one hand the current credit system is widely seen as the major engine behind the unsustainable imperative of growth. On the other hand, access to credit is essential for the survival of countless low-income households worldwide. In this context, what kind of credit arrangement is compatible with a sustainable and equitable economy? This paper provides the first preliminary overview of the main types of local credit systems classical as well as alternative—with an eye on their implications for post-growth. Traditional credit, bank credit, microcredit, credit unions, negative interest credit, social credit and mutual credit are in turn briefly examined with some historical examples. The interest rate, the kind of currency and the prospect for reciprocity between creditors and debtors all play a crucial role in the possibility of a post-growth economy. Alternative credit arrangements may develop through different stages and levels. Here and now, building and reinforcing local mutual-credit systems are a way forward provided that it is also adequately politicized. With the worsening of the debt crises and the increasing difficulties for further growth to occur, post-growth-friendly credit systems are likely to come back on the agenda of community economies.

Key Points

- Money must circulate and be allocated to those who need it and/or use it in a desirable way for society to fulfil its purpose. In the current economic system, the flow of money is driven by positive interest rates and the credit system. While fulfilling this purpose, this system also drives exponential economic growth and inequitable allocation of capital.
- Rethinking the credit and interest system must not be overlooked in the discussion of an alternative, de-growth economic system.
- Credit arrangements are incompatible with a post-growth economy due to three characteristics: generalized positive interest rates, the cumulative dynamics of modern interest-bearing money, and purely profit-oriented credit allocation controlled by a minority of private actors.
- Modern credit alternatives include microcredit, credit unions and full-reserve banking. The first two methods focus mostly on new ways of taking loans, either at a smaller scale or with a stronger social link between the borrowers. Neither seems to be able to solve the problem of lowering growth.
- Other alternative ways of credit could potentially be more possible to use in a post-growth economy such as negative interest credit, social credit and different kinds of mutual credit.
- The author does not give a definitive answer on how to re-organise the current credit system to align with a de-growth economy, but proposes trying alternative credit systems that supplement those that exist on a local, community level. Some alternative credit systems may work in a post-growth economy, and different kinds of economies may be useful for different sectors.
- History and current movements demonstrate that credit and indebtedness trigger social unrest and can therefore function as a leverage point for change.

Gomez-Baggethun, E. and Jose, N. (2015). In search of lost time: The rise and fall of limits to growth in International Sustainability Policy. *Sustainability Science, 10*, 385-395.

Abstract

International environmental policy has failed to reverse climate change, resource depletion and the generalized decline of biodiversity and ecological life support systems. This paper traces economic roots of current environmental problems and examines the evolution of sustainability policy since the publication of Club of Rome's report *Limits to growth* and the celebration of the first Earth summit in Stockholm in 1972 to the publication of UNEP's *Green economy* report and the celebration of the last Earth summit in Rio 2012. Our emphasis is on the evolving framing of the relations between growth and the environment and the role of markets and states in the sustainability policy agenda. We review influential policy documents and Earth summit declarations since the early 1970s. Three major changes are identified in international sustainability discourse: (1) an analytical shift from a notion of growth versus the environment to a notion of growth *for* the environment, (2) a shift in focus from direct public regulation to market-based instruments, and (3) a shift from a political to a technocratic discourse. We note that attempts in sustainability policy to address the conflict between growth and the environment have pulled back severely since the 1970s and discuss the observed patterns of change in relation to changes in the balance of political and ideological forces. We conclude summarizing main insights from the review and discussing perspectives of the sustainability debate on growth and the environment.

Key Points

- The knowledge that the physical size of the economy could not develop indefinitely in a finite planet was central to early economic thought, and persisted in the classical economic period (1770–1870s). With the collapse of the classical economic period, some writers kept paying attention to natural resources and physical limits.
- Concerns over the exhaustion of natural resources weakened from the 1930s, as economists conceived that capital and technology could replace natural resources, thereby developing the concept of continued economic growth unimpeded by physical limits.
- A turning point came in the 1970s when concern over growing environmental degradation saw the inception of international sustainability policy in the 1970s, accompanied by critiques of the concepts of growth, "development" and "progress."
- However, by the mid-20th century, land and natural resources had been totally removed from production functions in economic analysis. The emphasis was shifted from growth to poverty, and by offering the former as the solution to the latter, sustainable development released growth from the disapprobation of the 1970s to be reframed as an essential part of the solutions to environmental issues.
- When income grows environmental degradation rises, though some claim that when a country becomes rich enough, environmental quality may improve as people are able to take better care of the environment.
- Environmental policy has been commodified through the expansion of market values, instruments, and language in global environmental governance.
- The struggle between growth, equity and the environment has returned since the 1970s, twinning the adjustment of sustainability policy to the grounds of leading economic ideas. The authors contend that sustainability policy needs to move on ''in search of lost time'' and turn its glance to the future.

Hickel, J. (2019). Degrowth: a theory of radical abundance. *Real-World Economics Review,* 87, 54-68.

Summary

Capitalism relies on economic growth that is generated through increasing artificial scarcity (land, resources, labour) and decreasing the abundance of common resources (biodiversity, free-time, fresh water and air). Greater productivity should result in an abundance for the common to enjoy, however, a broken system causes profits to accumulate to the 1% at a great social and ecological cost. This paper explores how a degrowth approach to increase abundance while removing artificial scarcity is a potential solution to solve inequality and ecological issues.

Key Points

- Economic growth drives energy consumption at a greater rate than the development of clean energy. Based an average of 3% global GDP, decarbonisation must occur at 7.3% to reach 2^{o}C threshold, however, decarbonisation can occur only at 3% per year under optimistic policy conditions. Degrowth approaches like LED (Low Energy Demand) can alleviate this problem by reducing global energy consumption by 40% before 2050.
- Degrowth aims to scale down the material and energy throughput of the global economy, focused on developed nations with high consumption per capita.
- Degrowth is different to a recession in that it is not a reduction in economic activity, rather a shift to a different type of economy. It is achieved through policies like shorter working weeks, redistributing labour to cleaner/useful industries, job guarantees and increasing hourly wages to a living wage (redistributing existing income), while relying on a shift in wellbeing indicators away from GDP towards GPI.
- Capitalism relies on artificial scarcity to drive the economic engine. As illustrated during the enclosure movement, privatisation of common land and forests decreased food availability, pushing peasants into selling their labour for money to acquire food and rents. This gave rise to the Lauderdale Paradox where private wealth is inversely proportional to public wealth.
- The modern economy illustrates the artificial scarcity of time where workers must increase productivity and work longer to secure their jobs, therefore having to spend money to decompress.
- The theory of radical abundance reverses the Lauderdale Paradox by expanding the commons and redistributing existing income. A living wage with more free time would reduce the reliance on materials and restricted marketing would reduce unnecessary consumption. The economy would produce less but would also require less, reducing the incomes of the rich but increasing public wealth.
- Degrowth relies on abundance to render growth unnecessary as the increased public wealth would be sufficient for common wellbeing.

Hickel, J., & Kallis, G. (2019). Is Green Growth Possible? *New Political Economy*, *25*(4), 469-486.

Abstract

The notion of green growth has emerged as a dominant policy response to climate change and ecological breakdown. Green growth theory asserts that continued economic expansion is compatible with our planet's ecology, as technological change and substitution will allow us to absolutely decouple GDP growth from resource use and carbon emissions. This claim is now assumed in national and international policy, including in the Sustainable Development Goals. But empirical evidence on resource use and carbon emissions does not support green growth theory. Examining relevant studies on historical trends and model-based projections, we find that: (1) there is no empirical evidence that absolute decoupling from resource use can be achieved on a global scale against a background of continued economic growth, and (2) absolute decoupling from carbon emissions is highly unlikely to be achieved at a rate rapid enough to prevent global warming over 1.5°C or 2°C, even under optimistic policy conditions. We conclude that green growth is likely to be a misguided objective, and that policymakers need to look toward alternative strategies.

Key Points

- Different organisations use varying definitions of green growth, most of which lack clear goals for *reduction* of environmental harm. UNEP offers the strongest policy-oriented definition, stating that green growth requires absolute decoupling of GDP from resource use and environmental impact.
- The concept of green growth rests on the assumption that absolute decoupling of GDP growth from resource use and carbon emissions is feasible and can be done at a rate sufficient to prevent dangerous climate change and other dimensions of ecological breakdown.
- The empirical data suggest that absolute decoupling of GDP from resource use:
  a) may be possible in the short term in some rich nations with strong abatement policy, but only assuming theoretical efficiency gains that may be impossible to achieve;
  b) is not feasible on a global scale, even under best-case scenario policy conditions; and
  c) is physically impossible to maintain in the longer term.
- The authors conclude that green growth theory – in terms of resource use – lacks empirical support.
- However, the authors note that it is reasonable to expect that green growth could be accomplished at very low GDP growth rates, i.e. less than 1 per cent per year, that in theory it is possible to disrupt the existing relationship between GDP and material needs, and that aggregate material footprint indicators obscure the possibility of shifting from high-impact resources to low-impact resources.
- This evidence raises questions about the legitimacy of World Bank and OECD efforts to promote green growth as a route out of ecological emergency and suggests that any policy programmes that rely on green growth should urgently be revisited.

Jackson, T. (2019). The Post-growth Challenge: Secular Stagnation, Inequality and the Limits to Growth. *Ecological Economics 156*, 236-246.

Abstract

Critics have long questioned the feasibility (and desirability) of exponential growth on a finite planet. More recently, mainstream economists have begun to suggest some 'secular' limits to growth. Declining growth rates have in their turn been identified as instrumental in increased inequality and the rise of political populism. This paper explores these emerging arguments paying a particular attention to the dynamics of secular stagnation. It examines the underlying phenomenon of declining labour productivity growth and unpacks the close relationships between productivity growth, the wage rate and social inequality. It also points to the historical congruence (and potential causal links) between declining productivity growth and resource bottlenecks. Contrary to some mainstream views, this paper finds no inevitability in the rising inequality that has haunted advanced economies in recent decades, suggesting instead that it lies in the pursuit of growth at all costs, even in the face of challenging fundamentals. This strategy has hindered technological innovation, reinforced inequality and exacerbated financial instability. At the very least, this paper argues, it is now time for policy to consider seriously the possibility that low growth rates might be 'the new normal' and to address carefully the 'post-growth challenge' this poses.

Key Points

- Chasing after growth in the face of challenging fundamentals is leading to rising instability and the fractured politics of a deeply unequal world.
- There is evidence the economic growth rate is slowing. The term "secular stagnation" describes this decline in the rate of economic growth in developed nations. This era of falling growth rates in advanced economies underscores the urgent need for the whole system to be changed. The current capitalist economic and social order must be overturned in order to continue a life within the earth's boundaries.
- Secular stagnation can partly be explained through the fact that there is a difference between the GDP per capita growth and the underlying labour productivity growth, with the labour productivity declining faster than the per capita GDP. According to trends labour productivity growth across the OECD will decline to zero by around 2028. This implies that continued growth would require the population either to work for longer hours or that there will be a need for a greater proportion of the population in the workforce.
- This is counterintuitive when technological advances are taken into account. However, trends show that labour productivity has fallen since the 1960s and this was at best only slowed, never reversed, by technological advances.
- The idea that rising income inequality is an inevitable consequence of falling growth rates is incorrect. More correct would be to argue that rising instability (both social and financial) is result of trying to protect the growth rate in the face of an underlying decline in productivity, by privileging the interests of the owners of capital over the interests of those employed in wage labour in the economy.
- Under the appropriate conditions, an economy with a declining growth rate might equally be headed towards lower income inequality and greater stability of employment.

Jacobs, M. (2012). Green Growth: Economic Theory and Political Discourse. *GRI Working Papers 92*, Grantham Research Institute on Climate Change and the Environment.

Abstract

The paper explores the concept of 'green growth' as it has emerged in international policy discourse over recent years. Identifying the core meaning of the concept and sister terms such as 'green economy', it relates green growth to the prior concept of sustainable development. The paper distinguishes between a 'standard' version of green growth which asserts the long-run economic benefit of environmental protection and a 'strong' interpretation which claims, more boldly, that environmental policy can be a driver for growth. Three different forms of this claim are identified and the evidence for them surveyed. The first is a Keynesian argument for short-term 'green stimulus' in times of recession. Second, a revision of standard growth theory identifies the contribution made to growth by investment in natural capital and the correction of a variety of market failures through environmental policy. Third, the theories of comparative advantage and long waves of capitalism emphasise the importance of technological innovation in generating growth. The paper offers some conclusions on the political economy of green growth and how likely it is to succeed in increasing the priority given to environmental policy.

Key Points

- The modern green growth concept rests on two assumptions: The costs of tackling environmental damage are not so great as to arrest the growth rate of well-performing economies, and if such damage is not addressed, the costs of environmental degradation will be far greater. More recently, proponents of green growth made the claim that environmental protection could actively drive growth and increase living standards.
- Three different arguments have been used to justify this claim:
    - *Green Keynesianism (environmental stimulus in recession)*: replacing loss in private sector during a recession with public expenditure in environmental improvements such as renewable energy, water quality improvement etc.
    - *Growth theory: correcting market failures*. Green growth argues that classical and current economies do not take environment as "natural capital" into consideration which has resulted in a market calculation "failure". They under-invest in natural capital and over-invest in environmental degradation activities.
    - *Comparative advantage and technological revolution: innovation and industrial policy.* Countries with stringent environmental policies force innovation and create a "first mover advantage" in domestic and international markets. In addition to this, low carbon energy systems and new innovations could result in a new green industrial revolution.
- The author concludes by recognising that the theory of green growth cannot determine whether any green strategy will achieve its aims – that will be an empirical matter and will depend on the kind of green growth in question. Some environment strategies may be growth-enhancing; some may act as a constraint.
- The case for green growth strengthens the longer the future timeframe under consideration is. Costs of protecting the environment should be understood as investments needed to generate growth in the medium to long term.

Jänicke, M. (2012). Green growth: From a growing eco-industry to economic sustainability. *Energy Policy*, *48,* 13-21.

Abstract

There are many questionable assumptions in the discussion of economic growth. One of them is the idea that governments are able to achieve sustained high growth. Another one is the belief that the solution to pressing financial and social problems centers on higher growth. It is also questionable, however, to say that giving up on economic growth as a paradigm is the necessary condition to tackle the environmental crisis. In actuality, solving such problems is about radical growth in environmental and resource-saving technologies. It is also about radical "de-growth" in products and processes that undermine long-term living and production conditions. This paper describes some best practice cases of "green growth" and the conceptual generalizations given by the OECD and other established institutions in Europe and Asia. It traces the transformation of the concept of "green growth" and evaluates the strategy that accompanies it.

Key Points

- The OECD strategies of green growth are essentially instrumental strategies to prevent environmental crisis.
- The main obstacle to green growth is the difficulty in attaining economic stability alongside proper resource management. So far there has been only a relative decoupling of economic growth and resource consumption in some advanced countries and the overall relief has been neutralised through rebound effects.
- Environmental issues cannot be properly addressed if the focus is limited to economic stability. The idea of green growth should not only be defined through GDP growth but also through increases in environment protection and resource management.
- The main factors of green growth to attain economic sustainability are: making increased resource productivity the focus of the opportunity structure; state-induced investments with potential refinancing through efficiency gains; a forced pace of innovation in environmental and resource saving processes and products; the dynamics of future green markets; and the prevention of growth-damaging development.
- Green growth entails both rapid growth of green sectors and de-growth of others.
- Zero growth is no solution to the environmental problem.
- Rich countries can achieve high speed of eco-innovation even with low growth rates, as exemplified by Sweden and Germany.
- The practical solution in current market systems to attain economic sustainability is to stabilise GDP growth, along with introducing the eco-innovation and physical de-growth process.

Johanisova, N., Crabtree, T., & Franková, E. (2012). Social enterprises and non-market capitals: a path to degrowth? *Journal of Cleaner Production, 38,* 7-16.

Abstract

The aim of this paper is to look at alternatives to the classic for-profit shareholding enterprise and to suggest how such alternatives might be supported within the current economic system. Another aim is to link the social enterprise and degrowth discourses. We first re-define the economy as including non-monetised sectors (the core economy and the economy of nature) and discuss the liminal zone of not-for-profit and not-only-for profit organisations. We then look at social enterprise definitions from a degrowth perspective and explain why the dimensions of scale, place, environment and provisioning patterns need more space in the social enterprise discourse. After that, we define non- market capitals as capitals taken out of the market and placed under local/member/democratic control and explain their importance in a degrowth economy. We give examples of non-market capitals and suggest a model involving mutual support between primary and secondary social enterprises. Finally, we suggest areas where more research is needed in this emerging field of inquiry.

Key Points

- The economy must be understood more broadly, with the non-monetised sector (nature, childcare, food growing, volunteering, mutual aid, housework etc.) included alongside the monetised sector.
- Institutions and mechanisms fueling economic growth itself are deeply ingrained in the current economic system. This system favours large and ever-growing companies that externalise an ever-growing proportion of their costs onto other players, such as their workers, nature, or future generations. They are often not sustainable and may miss real and basic needs in communities.
- However, an economic organisation explicitly aiming for other goals than (only) profit and growth would be in danger of being expunged from the system as the positive externalities it produces makes it less efficient.
- A social enterprise, while participating to some extent in the market, explicitly aims to benefit the community or a specific group of people and excludes the profit-maximising principle (e.g. recycling part or all of the surplus/profits back into the organisation rather than paying dividends to members/shareholders). They exist to benefit the community and are more likely to satisfy real needs. When real needs are satisfied, the call for growth is less.
- The author critiques the idea of commodification of capital like human labour, land, and knowledge, arguing that they should not be tradeable in a deregulated market but controlled democratically on a non-profit basis (non-market capital).
- A transition phase to a degrowth economy is suggested that starts with the given structures of the current system and implements social enterprises that, with support mechanisms, can survive and take root. This is envisioned as changing the economic system itself from below to slowly build a base for a degrowth economy.
- The social enterprise model presented in the paper is not meant to introduce a new institutional structure. Instead, it is meant to acknowledge and legitimate already existing relationships of mutual collaboration which have gone unmarked by the mainstream economic discourse, and thus enable their further self-reflection, development and refinement.

Kallis, G. (2011). In Defence of Degrowth. *Ecological Economics*, 70(5), 873-80.

Abstract

This article predominantly gives an overview of what is sustainable degrowth, its vision, and its acceptance in current market systems. The main focus on this article is to how the degrowth will transform to socially sustainable in terms of prosperous and stable. The concept of socially sustainable degrowth is underlying in a deep philosophical, anthropological, cultural ideas of the society. To achieve this, there should be the implication or redistribution of some policies such as reduction in the working hours, imposition of taxes, relocalization of financial institutions, control on advertisements and so on. However, it will negatively affect the existing market economy so, there is little chance to implement these on the growing economy. Moreover, cultural as well as political changes are tied with the degrowth. Thus, the sustainable degrowth is not a vision, it is radical political project it builds a society which offer better life with less materials.

Key Points

- Sustainable degrowth is defined as a socially sustainable process of downscaling society's metabolism and throughput. Though GDP will fall as an output of degrowth, this is not the objective *per se.* Degrowth is hypothesised to bring, under certain conditions and policies, improvements in welfare and environmental conditions.
- Selected degrowth is needed where resources are redistributed between public and private consumption and between generations. This idea creates a debate over which activities should grow and which need to degrow. This choice cannot be left to market forces alone.
- Suggested policies for sustainable degrowth to improve welfare and environmental conditions include reduction of working hours, redistribution of taxes, decentralization of financial organizations and economy, implementation of taxes on environmental disturbance.
- Suggestions for indicators or measuring parameters for socially sustainable degrowth include declines in throughput-related variables (CO2 reduction, land urbanization, waste emission etc.) and increases in welfare-related variables (e.g. poverty level).
- Revolutionary social and political changes must underpin degrowth. Degrowth and a steady state economy are only likely with radical changes in basic institutions of property, work, credit and allocation. The dominant cultural story equates growth with progress, so advocates for degrowth must work to counter this false story and create a new – even if imperfect – one of sustainable degrowth to pave the way for its implementation.

Kallis, G. (2012). Note from the field: Societal metabolism, working hours and degrowth: a comment on Sorman and Giampietro. *Journal of Cleaner Production 38,* 94-98.

Abstract

Can we choose whether to degrow? Sorman and Giampetro in this Special Issue argue that degrowth can only be forced upon us; it will never be the outcome of voluntary or collective choice. In this commentary, I argue instead that although sooner or later we will have to degrow because of bio-physical limitations, we still have a choice of how to do it. Constructing a positive vision of degrowth as an inspirational political project that mobilizes citizens, increases the likelihood of a "prosperous way down". I agree with the authors that in an energy scarce world we will have to work more to maintain the same level of material affluence, but I contend that under conceivable conditions we might be equally happy with less work, less energy and less material affluence. A multi-scalar analysis of societal metabolism is essential for the evaluation of degrowth policies and trajectories. However, unlike what Sorman and Giampietro suggest, there is nothing in existing metabolic analyses that suggests that a prosperous degrowth trajectory is *a priori* impossible.

Key Points

- Kallis debates the processes of how our societal metabolism and working hours could be affected by economic down-scaling (degrowth). He accepts that degrowth will occur due to bio-physical limitations (as postulated by Sorman and Giampietro (S&G)) but argues that the method by which this will happen is not yet established. The fundamentals of the 'degrowth proposal', the debate of shorter working hours, and the feasibility of social and institutional change are explained.
- S&G suggest that degrowth can only be forced upon us. Kallis, on the other hand, raises the question whether growth and environmental sustainability could be compatible.
- S&G considered possible models using industrialized economies, which in their view show economic downscaling as inevitable. They see that real change will only happen after the continued *expansion* of our societal metabolism and institutions, followed by *collapse*, and then *adaptation*.
- Kallis has a more optimistic premise about humankind and their ability to adapt, suggesting societies still have a free choice as to how to reorganize themselves and how they will react to the fact that we are rapidly reaching resource and waste limits.
- S&G's perception of degrowth being achieved by (1) a voluntary reduction of personal consumption (including a reduction in working hours) or (2) as a result of governmental planning and implementation as the only alternatives, are justified by them due to (1) the paradox of Jevons-gains in efficiency will lead to an increase in total consumption, and (2) the world being too complex and unpredictable to plan.
- Kallis is an advocate of the 'degrowth proposal' (socially sustainable economic degrowth) which argues there are numerous ways to attain a planned and organized societal change in response to the transition to degrowth.

Kallis, G., Kerschner, C. and Martinez-Alier, J. (2012). The Economics of Degrowth. *Ecological Economics 84,* 172–180.

Abstract

Economic degrowth is ecologically desirable, and possibly inevitable; but under what conditions can it become socially sustainable? How can we have full employment and economic stability without growth? What will happen to public spending and to public debt? How would production be organised in a degrowing economy? And under what plausible socio-political conditions could such grand changes happen? Standard economic theories and models ignore these questions. For them economic growth is an axiomatic necessity. This article reviews recent contributions in the economics of degrowth and identifies research avenues for ecological economists.

Key Points

- The authors review literature from the degrowth (DG), steady state economy (SSE) and new economy (NE) perspectives to discuss how prosperous degrowth might be conceptualised and implemented.
- There is a strong case for the necessity of degrowth but significant questions about its feasibility and stability. However, the authors note that degrowth advocates do not suggest degrowth forever – degrowth can be the path to a steady state economy.
- Different proposals from the literature for what a degrowth economy might look like are critiqued, with an accompanying discussion of how "saleable" these visions are to the majority. Some of these visions, particularly those proposing "zero" or "beyond" growth economies rather than degrowth, appear to avoid the issue of material sacrifice which degrowth generally calls for.
- DG, SSE and NE generally propose similar policies and institutions needed for a degrowth society: resource and CO2 caps; extraction limits; new social security guarantees and work-sharing (reduced work hours); basic income and income caps; consumption and resource taxes with affordability safeguards; support of innovative models of "local living"; commercial and commerce free zones; new forms of money; high reserve requirements for banks; ethical banking; green investments; cooperative property and cooperative firms.
- Policies that align with degrowth are difficult to implement, and there are questions as to whether degrowth is achievable within a capitalist economy. Historical evidence suggests that substantial reforms are possible but require radical agendas in power or revolution to bring them about.
- A wide array of future research areas are suggested to understand more clearly how degrowth might be implemented and what this might look like.

Kallis, G., Kostakis, V., Lange, S., Muraca, B., Paulson, S. and Schmelzer, M. (2018). Research on DeGrowth. *Annual Review of Environment and Resources*, *43,* 291-316.

Abstract

Scholars and activists mobilize increasingly the term degrowth when producing knowledge critical of the ideology and costs of growth-based development. Degrowth signals a radical political and economic reorganization leading to reduced resource and energy use. The degrowth hypothesis posits that such a trajectory of social transformation is necessary, desirable, and possible; the conditions of its realization require additional study. Research on degrowth has reinvigorated the limits to growth debate with critical examination of the historical, cultural, social, and political forces that have made economic growth a dominant objective. Here we review studies of economic stability in the absence of growth and of societies that have managed well without growth. We reflect on forms of technology and democracy compatible with degrowth and discuss plausible openings for a degrowth transition. This dynamic and productive research agenda asks inconvenient questions that sustainability sciences can no longer afford to ignore.

Key Points

- The rising prominence of GDP as a symbol of national sovereignty in the 1930s to 1950s led to the establishment of economic growth as an overriding political and social objective.
- While theoretically possible, there is no empirical evidence supporting the possibility of absolute decoupling. Many countries, however, have achieved relative decoupling by maintaining higher rates of economic growth relative to growth in material and energy consumption and environmental impact.
- Efficiency does not equate to degrowth. Efficient use of resources results in lower costs, which allows use of greater quantity of resources – leading to growth. Thus, increases in resource productivity increase output and resource use.
- Social transformation in monetary, fiscal, labour and welfare institutions is required to put an end to economic growth without destabilizing the economy.
- Degrowth and capitalism are incompatible concepts: Limiting economic growth within the boundary of ecological limits will cause capitalism to collapse. In the same manner, unconstrained economic growth will cause ecosystem collapse.
- Infinite growth is not feasible on a finite planet. It can also result in disastrous outcomes due to overshooting of planetary boundaries.
- Without any action to address unconstrained economic growth, long-term economic depression resulting from an involuntary end to growth is to be expected. However, established interests and power relations makes planned degrowth politically unlikely.
- Non-capitalist societies and populations throughout history have proven their ability to flourish without pursuing growth. This is manifested in steady state economies and living conditions not centred around growth and material possessions.
- Technology can be utilized to provide localized solutions to human needs, while significantly reducing resource and energy throughput.

Kasztelan, A. (2017). Green Growth, Green Economy and Sustainable Development: Terminological and Relational Discourse. *Prague Economic Papers, 26*(4), 487-499.

Abstract

The purpose of the survey and to some extent polemical article is to present the issue of green growth, a new operating strategy which the OECD is currently working on. Green growth is seen as a practical tool for achieving the timeless objective – which is sustainable development. In the paper, particular attention is put on the following question: what kind of relationship occurs between green growth, green economy and sustainable development. The author analyses the purpose of simultaneous functioning of the three " green " ideas. The added value of this paper is a presentation of the author's model of GG-GE-SD relations and a new approach to defining the phenomenon of green growth. It is concluded that coexistence of the trio green economy – green growth – sustainable development is reasonable due to the complementary and synergistic nature of correlations between these concepts.

Key Points

- Green growth (GG) focuses on accelerating investments and innovations that will underpin sustainable development (SD) and provide new economic opportunities. Green economic growth helps to direct the economy towards technologies and consumption patterns that create jobs and economic growth, find cost-effective ways of reducing pressure on the environment and reallocate labour, capital, and technology optimally.
- The OECD's Green Growth Strategy aims to: contribute to creating and developing a new framework for national accounts taking into consideration environmental issues and general social welfare; provide specific tools and recommendations for formulating national policies to help governments most effectively change to sustainable economy and achieve sustainable development; constitute a significant source of information on ways to support green growth in countries with emerging and developing economies; and create new jobs both in the short and long run.
- In October 2008 UNEP initiated the Green Economy (GE) Initiative in order to ensure analyses and political support for investments in "green" sectors of economy but also to make conventional, material-consuming and pollution-generating sectors "green". The UNEP has defined the green economy as "one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. It is low carbon, resource efficient, and socially inclusive".
- The GG-GE-SD model simply implies that SD is based on economic growth, and the building of GE is based on the strategies of GG. SD includes ecological, economic, social, technical, moral, legal and political dimensions, and is created by elements of GE, which are natural and built capital. Natural capital includes agriculture, fisheries, water and resources whereas built capital includes renewable energy, manufacturing, waste, buildings, transport and cities.
- GG elements add value to GE. These elements include valuing natural assets; making pollution more costly; reforming environmentally harmful subsidies; innovation and green technology development and diffusion; skills development and labour market policies; leveraging private investments and greening consumer behaviour.

Kerschner, C., & O'Neill, D.W. (2015). Economic growth and sustainability. In H. Kopnina & E. Shoreman-Quimet (Eds.), *Sustainability: Key issues*: Routledge.

Abstract

Hardly any other matter is debated as fiercely in sustainability research as the role of economic growth. However, this debate is still somewhat one-sided, as those who do not question the possibility and desirability of further economic growth rarely engage with the critics and sceptics who do. In this chapter we provide an overview of the different views on the relationship between economic growth and sustainability. We first present the arguments brought forward by those who do not see a conflict between growth and sustainability and who engage in concepts and theories such as ecological modernization, green growth, the green economy, the Environmental Kuznets Curve and dematerialization. We then deliver an overview of the counter arguments to these theories, which can be divided into three broad critiques: (1) growth is not sustainable due to environmental and resource limits (2) growth is not desirable because it is failing to improve people's lives, and (3) growth is not realistic due to factors such as an ageing population and increasing debt. Finally we provide a condensed introduction to the post-growth perspectives of steady state economics and degrowth, their theoretical background, differences and complementarities.

Key Points

- Mainstream economic theory encourages continual economic growth by improving efficiency or technology. However, economic growth increases cost more than benefit, as continual growth within finite ecosystem and entropic world results in ecological and social costs that increase faster than production benefit. Even renewable resources will become non-renewable if we exploit them beyond sustainable yield.
- The growing economy extracts natural capital and builds up man-made capital, boosting the flow of economic services while shrinking the ecosystem's ability to provide services. This results in loss of ecosystem value.
- Industrial countries' solution to continue economic growth can be described as environmental load displacement, where industrialized nations utilise international trade to extract less from their geographical area while GDP and material consumption remain in almost constant upward trend. This makes them appear greener while hiding the actual environmental impact of the nation.
- The Environmental Kuznets Curve suggests there is a U-shaped relationship between per capita GDP and environmental degradation, where development initially increases degradation but then reaches a point where society has sufficient capital to reduce this degradation.
- Growth is commonly held as the answer to improving wellbeing, especially of the poor. Practically, redistribution of income is extremely hard to achieve so mainstream economists encourage increasing individual earnings through economic growth and the "trickle-down" effect. However, though the global economy has grown exponentially, income inequality has not been lessened.
- GDP per capita and social wellbeing generally correlate for a short period but not in the long term. Additionally, the Genuine Progress Indicator (GPI) has shown that economic growth has already equaled or exceeded its benefits.
- Moving into green technologies and providing green jobs and infrastructure can allow the economy to move from "grey" to "green." This can be a win-win strategy for economic, societal and environmental sustainability.

Klitgaard, K.A., & Kraal, L. (2011). Ecological Economies, Degrowth, and Institutional Change. *Ecological Economics,* 84, 247-253.

Abstract

Ecological economics has made great strides in the understanding of how the human economy is embedded in a finite and limited biophysical system. However less progress has been made in understanding the internal dynamics of the economy that produce periods of slow growth, even in the absence of biophysical constraints. The real economy is a complex system, replete with myriad positive feedback loops. By looking at the economy from a systems perspective, ecological economists can better understand the internal dynamics of a market system that lead to the periodic depressions and recessions that characterize "the failed growth economy." A non-growing or declining economy exacerbates formidable economic problems such as unemployment, debt, and poverty. Since the middle of the 20th century governments have pursued growth strategies to solve social problems. But the age of economic growth is coming to an end, driven by its own internal dynamics and by biophysical forces such as climate change and peak oil. Degrowth implies less, and the steady state implies less on a permanent basis. Ecological economists need to pay more attention to the implications of less for a market economy and the effects upon people under our present economic configuration.

Key Points

- There is a discrepancy between absolute growth of the world's economy and percentage growth. Absolute growth, which uses more resources and emit more pollutants, has grown exponentially. Meanwhile, relative, or percentage growth, upon which employment depends, has fluctuated over the same decades and shows a downward trend. We are growing too fast to remain within the limits of the biophysical system while growing too slowly to provide sufficient employment.
- The growth rate decline is embedded deeply within the institutional structure of the economy, as well as within biophysical limits.
- Ecological economics is a vast improvement over mainstream economics because it embeds the economy inside a finite and non-growing biophysical system. This approach can be enhanced by a greater focus on market capitalism as a system.
- It is crucial to make the distinction between the functioning of an individual market and the function of the Market as a System, with boundaries, inputs and output, feedback loops, and institutional configurations that include beliefs and agencies of economic organization such as laws and bureaucratic arrangements.
- A new economic framework must be built with three central features in mind: 1) it must recognize that we are now reaching the biophysical limits of the planet; 2) it must recognize the internal limits of mature capitalism, manifested as chronic stagnation and unemployment, and 3) points 1 and 2 are interrelated.
- No growth, and more likely de-growth, are a necessity in an economic system that is reaching external biophysical limits and are a reality for an economic system that can no longer resolve its internal contradictions.

Koch, M. (2019). Elements of a political economy of the postgrowth era. *Real-World Economics Review*, *87*, 90-105.

Abstract

Planetary boundaries are either being approached or already crossed, and there is no evidence for an absolute decoupling of GDP growth, resource use and greenhouse gas emissions. How economic and social systems may be re-embedded into environmental limits in the absence of growth is a crucial issue within and beyond economics. This paper outlines some of the elements and analytical steps that may turn out useful for formulating a political economy of the postgrowth era. The point of departure of the paper is the ecological critique of neoclassical economics. Subsequently, it revisits Marx's Critique of Political Economy and its potential capability of unifying the monetary (or exchange value) with the matter and energy (or use value) aspects of production and consumption patterns. The following section considers the regulation approach that was originally tabled for the institutional analysis of different growth strategies within the historical development of capitalism. However, the notion of "institutional forms", in particular, may also give hints of how the social structures of an economy without growth may be understood. Using the analytical toolbox developed in the previous sections, the last section outlines some of the general features of a "global steady-state" economy highlighting the centrality of the provision of sustainable needs satisfiers and the role of one particular institutional form in the transition from a growth to postgrowth economy: that of the state.

Key Points

- Neoclassical economic theory generally considers a circular flow of money and commodities while excluding biophysical processes.
- Ecological economics critiques this school of thought, emphasising matter and energy transformations in the economic process. However, ecological economics does not fully account for the social relations and power asymmetries that are inherent to capitalist economies.
- These divergent approaches could be unified using Marx's Critique of Political Economy.
- The author refers to the "double character" of products, where every product has an exchange value and a use value that relates to the tensions between the capitalist economy and the environment. The use value (matter and energy) is currently less important in the market than the exchange value.
- An economics in keeping with the times would address both the use value and exchange value moments of current production and consumption patterns without losing sight of the power relations inherent in the current global political economy.
- The author emphasizes how important regulation is in this context. These regulations depend on social, political and cultural features of society. Therefore, the existing state apparatus could be used to start the necessary ecological and social change that is needed to move to a postgrowth economy.
- Economic challenges will be different on global and local levels.

Koch, M. (2020). The State in the Transformation to a Sustainable Postgrowth Economy. *Environmental Politics*, *29*(1), 115-133.

Abstract

The limits of the environmental state in the context of the provision of economic growth are addressed by applying materialist state theory, state rescaling approaches and the degrowth/postgrowth literature. I compare state roles in a capitalist growth economy and in a postgrowth economy geared towards bio-physical parameters such as matter and energy throughput and the provision of 'sustainable welfare'. In both cases state roles are analysed in relation to the economy, welfare, and the environment, as well as state spatiality. Finally, I address the state in a transition from a growth economy to a sustainable postgrowth economy. I argue that materialist state and sustainable welfare theories are capable of informing state-led 'eco-social' policies that, if integrated in a comprehensive policy strategy, have the potential to overcome the growth imperative in the economy and policymaking and break the growth-related glass ceiling of the environmental state.

Key Points

- The capacity of the environmental state is dependent on the context to which environmental performance can be decoupled from GDP growth. State-led policies are feasible *if* they do not undermine overall growth orientation and are therefore limited to provision of "green growth."
- In a post-growth context, the goal of economic growth is replaced by the goal of re-embedding production and consumption patterns into planetary limits. Policies would then be oriented at minimising matter and energy throughout and maximising sustainable welfare.
- Welfare is essential for many people in an economy to survive. Welfare systems are sustained by taxing income within a growth economy, with that money going towards the 'needs' of the welfare recipients. However, due to a growth economy's path dependency to income growth, changing taxation from income-related to wealth-related would result in significant tax losses and the endangerment of the welfare system. If a transition is possible, it must account for the structural change of an economy and the reduction in luxuries to levels which are closer to needs.

Korhonen, J., Honkasalo, A. and Seppälä, J. (2018). Circular Economy: The Concept and its Limitations. *Ecological Economics, 143*, 37-46.

Abstract

Circular economy (CE) is currently a popular concept promoted by the EU, by several national governments and by many businesses around the world. However, the scientific and research content of the CE concept is superficial and unorganized. CE seems to be a collection of vague and separate ideas from several fields and semi-scientific concepts. The objective of this article is to contribute to the scientific research on CE. First, we will define the concept of CE from the perspective of WCED sustainable development and sustainability science. Second, we will conduct a critical analysis of the concept from the perspective of environmental sustainability. The analysis identifies six challenges, for example those of thermodynamics and system boundaries, that need to be resolved for CE to be able to contribute to global net sustainability. These six challenges also serve as research themes and objectives for scholars interested in making progress in sustainable development through the usage of circular economy. CE is important for its power to attract both the business community and policy-making community to sustainability work, but it needs scientific research to secure that the actual environmental impacts of CE work toward sustainability.

Key Points

- Circular Economy (CE) is a logical response to the traditional linear supply flow model (cradle-to-grave) that instead seeks to “close the loop” and cycle end-products back into the supply chain (cradle-to-cradle). However, scientific research underpinning the validity of the CE model is limited and inconsistent, and the authors seek to address these gaps and inconsistencies.
- The CE model comprises several activities – product use, manufacturing, recycling and disposal activities. Within this model, materials that would otherwise be considered as waste products are reintegrated into complementary supply chains as inputs. This concept has multiple benefits - most prominently cost-saving for enterprises and reduced negative environmental impacts associated with industrial activities.
- The authors suggest a universal definition of CE for sustainable development based on three objectives – economic, social and environmental. The economic objective aims to reduce costs of material and energy, waste and emissions costs, risk from legislation or public image, and to improve market opportunities. The social objective aims to establish the sharing economy, increase employment and participative decisions make, and move towards a more efficient cooperative culture rather than an individual consumer culture. The environmental objective is to reduce virgin material and energy inputs and waste and emissions outputs.
- The authors also identify six key challenges to the further development and global implementation of CE concepts – thermodynamic limits (all material and energy use will lead to resource depletion), challenges to defining system boundaries (spatial and temporal), economic growth limits, path dependencies and lock-in, organizational strategies and stakeholder views, and different definitions of physical flows (driven by temporal, cultural and spatial influences).
- While the CE model is promising as a means to address environmental sustainability concerns and achieve sustainable development, it requires extensive development and investigation prior to its global implementation. In addressing the above challenges, the CE model may become more plausible over time, allowing for an alternative economic model to facilitate sustainable development.

Lietaert, M. (2010). Cohousing's relevance to degrowth theories. *Journal of Cleaner Production*, *18*(6), 576-580.

Abstract

In a context of ever faster globalisation, citizens and their environment are clearly put under pressure. This article introduces the cohousing movement as a model to make life more social and greener in an urban context. Cohousing communities are neighbourhood developments that creatively mix private and common dwellings to recreate a sense of community, while preserving a high degree of individual privacy. In that respect, cohousing fits perfectly well with degrowth economic theories. Yet, cohousing goes beyond theory as this phenomenon that started in Scandinavia 30 years ago is now spreading in the Anglo-Saxon world since the 1990s, and more recently in the rest of Europe and in Japan.

Key Points

- GDP is no longer an appropriate indicator for a nation's prosperity or individual happiness. Lietaert argues that the "collapse" of individual happiness can be pointed to the collapse of supportive community structures and the increase in asocial living behavior that occurs in big cities. Our current style of living has proved to be unsustainable in terms of personal health and our carbon footprints.
- The concept of cohousing was developed in Denmark in the 1970's, aimed at achieving a greater quality of social life and to "lessen the burden of everyday life." Lietaert argues that cohousing is strongly related to the degrowth movement at the micro scale.
- The six fundamental characteristics of cohousing communities are: the citizen's ongoing and direct management of the cohousing process; intentional neighbourhood design to cater to the needs of its residents; availability of extensive common facilities for citizens; regular residential management meetings; an absence of a hierarchical structure; and, incomes are separate between citizens (not a commune).
- Cohousing can promote a healthy lifestyle as residents engage in shared responsibilities such as cooking and childcare. Studies have also shown that cohousing communities established after 2000 have more environmentally aware habits and promote a low carbon footprint. Vehicle ownership numbers in cohousing communities are far lower as residents often ride-share or bike.
- Lietaert argues that cohousing can contribute to economic degrowth through addressing the individualist consumer attitude encouraged by media and trends. Citizens in close community-based environments such as cohousing can better influence consumption patterns. Cohousing is also about institutionalising community structure back into urban areas. It encourages the use of common shared spaces for residents to interact, providing a sense of security and support within communities.

Lorek, Sylvia, & Spangenberg, Joachim H. (2014). Sustainable consumption within a sustainable economy – beyond green growth and green economies. *Journal of Cleaner Production, 63*, 33-44.

Abstract

In 1992, one unambiguous result of the UNCED conference was the need for changing consumption and production patterns, with affluent countries taking the lead. 20 years later, at the 2012 UNCSD, little is left over and instead the “green economy” has been the theme pursued by the OECD, the EU and other countries. So the question needs to be answered if this is finally an attempt to put into practice what was promised 20 years ago, or another diversion from what needs to be accomplished. Sustainable development is still a convincing concept, if the original definition is taken, avoiding the confusion caused by partisan interests reinterpreting the concept. Focussing on human needs fulfilment and respecting environmental limits, it can still guide strong sustainable consumption. Green economy/ green growth, on the other hand, is a new terminology for what is known since 40 years as ecological modernisation. It is indeed overdue, but with its focus on efficiency and innovation it cannot guarantee to fulfil the Brundtland sustainability criteria. A factor analysis based on the I = P*A*T formula demonstrates how optimistic the assumptions regarding future technologies must be to support the green growth concept. Consequently, the authors pledge for a pragmatic, risk avoiding approach by slimming the physical size of the economy. This requires ‘strong sustainable consumption’ (including production as resource consumption), which in turn requires a change of the societies’ institutional settings (formal and informal, mechanisms and orientations). Finally some elements of a strategy towards this end are pointed out, with special emphasis on the role of non-governmental organisations NGOs. Through networking and advocacy they can both stimulate bottom-up action and mobilise the pressure necessary for the institutional changes which are needed to mainstream strong sustainable consumption.

Key Points

- In-depth explanations of the characteristics of sustainable development in terms of green growth and the green economy claims are offered. The limitations of growth are discussed as well as the potential for reduced environmental impacts and the effects on the economy.
- The concept of green growth and green economy cannot fulfil the objectives of sustainable development as they cannot sufficiently reduce environmental impacts and eradicate poverty. Green growth may be a necessary step to achieve sustainable development, but it is not enough. It also depends on the promise of technological solutions. The green economy concept focuses on incremental improvements, thus failing to provide or at least promote the radical changes needed. To develop a sustainable economy, population growth and affluence must also be addressed.
- Due to the necessary reduction of environmental impacts, the market must be reduced and the sustainable economy must reassess the contribution of non-market activities to human well-being. Sustainable economies must establish both lower and upper limits for resource consumption. This includes reallocation of resources from affluent people to those whose basic needs are not met.

Machiba, T. (2010). Eco-innovation for enabling resource efficiency and green growth: development of an analytical framework and preliminary analysis of industry and policy practices. *International Economics and Economic Policy 7* (2-3), 357-370.

Abstract

In order to meet great environmental challenges including climate change, more attention needs to be paid to innovation as a way to develop and realise sustainable solutions. This paper reviews the existing understanding of "eco-innovation" and proposes a framework that defines this concept from three aspects—target, mechanism and impact. The proposed framework is also applied to understand the evolution of corporate activities for sustainable production and analyse some good practices. Eco-innovation activities are very diverse and are occurring at different levels and scales. Although the primary focus of corporate practices tends to be on technological advances, some advanced industry players have adopted complementary organizational or institutional changes such as new business models and alternative modes of provision. It is therefore essential to capture both incremental and systemic (or radical) types of eco-innovation unlike most empirical research in this area.

Key Points

- The paper presents parts of the OECD project: *Declaration on Green Growth* and defines an eco-innovation concept. Despite an increasing interest in sustainable production by different industries and improving efficiency, increasing consumption has often offset the positive effect of these improvements.
- Incremental improvements are not enough to meet global challenges such as depletion of natural resources and energy security. Industry must be restructured while innovation of new technologies for realizing green growth must be promoted.
- Incremental innovations are defined as the use of existing or improved technologies in existing application fields, but we need systemic innovations which implement both existing and new technologies in new application fields.
- The current economic crises could be an opportunity to start anew and shift to green development and green economy through *eco-innovations*. It is important to understand and distinguish different types of eco-innovations to describe their contribution to sustainable development. Eco-innovation should be seen as an overall concept for pursuing sustainable development rather than describing only technological improvement.
- The author presents different fields where eco-innovations could be applied, both technological and non-technological. Depending on the target business, e.g. industry (manufacturing, service), social infrastructure (transport) or personal lifestyle, three different innovation types could be applied: technology-, business model- or institution-based innovations. While manufacturing of products is often highly dependent on technological innovations, eco-innovations in marketing, institutions and organizations rely on non-technological changes.
- To enhance long-term sustainability, environmental benefits and green growth, eco-innovations require a broader context, including consideration of social norms, cultural values and institutional structures, in order to decouple environmental degradation from economic growth.

Marsiglio, S. (2015). Economic Growth and Environment: Tourism as a Trigger for Green Growth. *Tourism Economics, 21*(1), 183-204.

Abstract

The paper analyses the implications of tourism activities for economic growth and environmental assets, focusing especially on small island countries. The author develops a stylized dynamic economic model in which tourism is the trigger of the incentive mechanism leading to abatement activities and economic growth. The basic idea is that tourists choose the location to visit according to a number of factors (including environmental quality) which are affected by residents' choices. If residents engage in environmental protection activities, it then may be possible for environmentally based tourism economies to reach a smooth development process. The author shows that the (sustainable) balanced growth path is the only viable equilibrium, and along such a path consumption grows while environmental quality rises. Tourists' preferences crucially affect the long-run outcome, since economic and environmental growth rates increase with the green preference and decrease with the grey preference and crowding aversion parameters. Thus, if tourism specialization is to be the pathway to development, green tourism will need to be promoted.

Key Points

- Tourism is based on a complex bilateral relationship with the environment. Environmental assets are a crucial factor in tourists' destination choice, but the development of a tourism industry has negative effects on the environment. In developing countries dependent on tourism, where income depends on tourism profits, it is crucial to find a sustainable tourism pathway that allows for a smooth development process.
- Small islands like those in the Caribbean and South Pacific need the tourism industry to increase government income. However, more and more tourists tend to spend less money during the journey, decreasing the available money for governments to address environmental problems.
- A sustainable pathway is possible if tourism firms allocate some resources to reduce the adverse impact of tourism on the environment. Long-term profits from tourism represent an important stimulus for engaging in environmental protection that leads to green growth. The resident household-firm agent must determine how to manage the trade-off between developing tourism facilities and preserving environmental quality by deciding how much to invest in tourism services and in environmental protection activities.
- The author uses several models to test the relationship between economic growth and environmental conditions to find a way to minimise environmental degradation in the tourism industry
- The models find that it is possible to achieve a long-term development of sustainable tourism. Suggested methods include: Regulate the development of tourism industry, control the number of tourists and find the optimal number of tourists for a tourism attraction, research the requirements of tourists, and use dynamic modelling to test the development of the tourism industry.

Matthey, A. (2010). Less is more: the influence of aspirations and priming on well-being. *Journal of Cleaner Production, 18*(6), 567-570.

Abstract

If resource consumption is to be reduced through economic “de-growth”, individuals in industrialized countries may have to accept a reduction in their consumption levels. In democratic societies, implementing this process requires the consent of a majority of the population. However, as long as people have high reference levels of consumption, lower consumption will induce feelings of loss, and hence evoke resistance. This paper summarizes recent experimental evidence on some of the factors that determine the utility costs involved in decreasing consumption. The results suggest that the acceptance of economic de-growth would be facilitated if people's material aspirations were moderated, and the extent to which material achievements are emphasized in our daily environment were reduced. An analysis of the financial and economic crisis that developed during 2008 suggests that it will not contribute to either of these points. Rather, by increasing the public's focus on the economic sphere even beyond pre-crisis levels, it may lead to a further decrease in the acceptance of de-growth policies in the population.

Key Points

- Continuous increase in consumption levels by consumers is seen as critical to the way economic and social systems operate. However, recent findings have outlined that it is not feasible to continue to promote continuous growth in output and consumption, and a reduction in consumption needs to become more acceptable to the affected individuals.
- Exploring how individuals’ utility level can be affected by aspirations and priming (a method used to activate certain concepts in an individual’s mind without drawing their attention to it) can shed light on how this might be achieved.
- The author conducted two experiments. The first experiment focused on the influence of aspirations on individuals’ consumptions levels. It showed that individuals’ aspirations can influence their preference. As a result, if high aspirations in terms of consumption levels are not attained, this may result in loss of wellbeing as aspirations are not fulfilled. The second experiment investigated the influence of priming on individuals’ preferences, concluding that when individuals are exposed to information on the importance of material achievements it can influence their preference and fuel increased consumption.
- Both experiments showed that the effect of a decrease in consumption on wellbeing depends on the individuals’ aspirations as well as how the individual has been primed towards a focus on material achievement.
- Many policymakers still see increased spending as the primary option to increase economic growth. For de-growth to be undertaken through a democratic process, the effects of individuals’ aspirations and priming must be considered.

Martinez-Alier, J. (2012). Environmental justice and economic degrowth: An alliance between two movements. *Capitalism Nature Socialism*, *23*(1), 51-73.

Summary

Countries in the global North consume more food and energy and produce more waste than those in the global South and are therefore living at the expense of these countries. Though poor countries generally contribute less to causes of climate change and other environmental issues, they will bear the effects. The term environmental justice was initially used in the USA to describe the unequal environment degradation in areas primarily inhabited by disadvantaged ethnic groups, but is now widely applied to movements and organisations across the world that resist extractive industries and are concerned with pollution and climate change. These movements speak to both intragenerational and intergenerational distribution, as well as addressing non-distributional dimensions of justice. The paper explores how environmental justice and economic degrowth, which aims to scale down consumption of natural resources and move away from the current paradigm of economic growth, are connected in their goal to move towards more a more sustainable and equitable world.

Key Points

- Environmental trends are alarming, particularly regarding extreme biodiversity loss and growing greenhouse gas emissions. These trends have raised questions as to the desirability of a steady-state economy and, in rich countries, a period of degrowth in the use of energy and material.
- The degrowth movement advocates for reducing production and consumption by contracting economies aiming for sustainability rather than growth. The degrowth movement is focused on the high-consumption North and breaks with the previous assumption that the economy should grow forever.
- Environmental justice movements of the South highlight the inequality of natural resource use and environmental liabilities, and attest to the need for degrowth.
- The author describes theories of social metabolism, energy flow, ecological economics, political ecology and Malthusianism that can affect the ‘meaning and ways' of achieving environmental justice.
- The alliance between indigenous groups and the environmental justice networks has led to significant environmental protection gains.
- From an environmental justice perspective, rich countries should (at the least) change their behaviour so as not to add to their increasing ecological debt. A programme of moderate economic degrowth is a plausible objective to meet this goal.
- Degrowth activists in the North would likely find willing allies in the environment justice groups and their networks in the South.

Missoni, E. (2015) De-growth and health: local action should be linked to global policies and governance for health. Sustainability Science, 10, 439-450.

Abstract

Volume and increase of spending in the health sector contribute to economic growth, but do not consistently relate with better health. Instead, unsatisfactory health trends, health systems' inefficiencies, and high costs are linked to the globalization of a growth society dominated by neoliberal economic ideas and policies of privatization, deregulation, and liberalization. A de-growth approach, understood as frame that connects diverse ideas, concepts, and proposals alternative to growth as a societal objective, can contribute to better health and a more efficient use of health systems. However, action for change of individual and collective behaviours alone is not enough to influence social determinants and counteract powerful and harmful market forces. The quality and characteristics of health policies need to be rethought, and public policies in all sectors should be formulated taking into consideration their impact on health. A paradigmatic shift toward a more caring, equitable, and sustainable de-growth society will require supportive policies at national level and citizens' engagement at community level. Nevertheless, due to global interdependence and the unavoidable interactions between global forces and national systems, a deep rethinking of global health governance and its reformulation into global governance for health are essential. To support de-growth and health, a strong alliance between committed national and global leaderships, above all the World Health Organization, and a well-informed, interconnected, worldwide active civil society is essential to include and defend health objectives and priorities in all policies and at all levels, including through the regulation of global market forces.

Key Points

- Before the economic crisis the health care industry represented around 10% of GDP for most developed nations. It is commonly agreed that good health is a productive asset that influences economic growth.
- On the contrary, without appropriate social policies and equitable distribution among people, increased GDP does not benefit health. Unlimited economic growth has negative impacts for human health due to lifestyle changes, environmental degradation, privatization, commercialization of health care and increased chronic diseases in poor countries.
- 'Ecological public health' aims to invert this trend. The 'de-growth model' acknowledges downscaling of consumption and production is necessary for human and ecological well-being.
- To build a de-growth society, implementation of a global governance and regulatory framework is necessary. In addition, social movements for prioritization of health and equity goals in policy making are required in all sectors and at all levels during the transition towards a de-growth society.
- The author discussed the role of global health governance in controlling market forces with the rise of the neoliberal model such as: public-private ventures, dependency on private donors, trade and investment treaties and corporate sectors' tactics to avoid regulation.
- A paradigm shift requires a substantial reorientation of policies at national level in addition to citizens' engagement at community level. Local experiences of social transformation along with the diverse ideas, concepts and proposals that have been included in the de-growth framework will need to go hand in hand with worldwide action for healthy global policies.
- The author concludes by advocating for a new model of local governance for health as a fundamental step in the transition to a post-growth society.

Neusteurer, D. (2016). The Concept of Green Economy and its Role in Hegemonic Neoliberal Capitalism. *Socijalna Ekologija, 25*(3), 311-324

Abstract

Since 2008 the term “Green Economy“ has been highly discussed on international and national political agendas, and it was the United Nations Environmental Programme (UNEP) which promoted the idea of “green stimulus packages“ to avoid a global recession in the context of the financial crisis in 2008. Th is article examines the concept of a Green Economy and its role in neoliberal capitalism using neo-Gramscian theoretic terms, namely “hegemony” and “passive revolution”. Thus, different ways of establishing and maintaining hegemonic power are central issues. Due to several crises in recent years, and especially since the financial crisis in 2008, the hegemonic predominance of neoliberal capitalism has come under pressure and now faces a functional crisis. Consequently, the necessity to address this issue arises and is required in order to ensure hegemonic power. I suggest that the concept of a Green Economy embodies a new hegemonic project of neoliberal capitalism and represents a “passive revolution” to calm critics and prevent counter-hegemonic approaches. It becomes obvious that the promoting of a Green Economy will not question the inherent contradictions of neoliberal capitalism that have led to the current multiple crises, but rather aims to transform the present economic progress towards a socio-ecological compatibility through carbon-independent economic growth. I conclude that a Green Economy, which operates within a capitalistic mode of production, will produce other forms of exclusion and exploitation and is not likely to overcome the inherent contradictions.

Key Points

- The term Green Economy was introduced to fight the multiple crises of economic prosperity and environmental protection through environmentally compatible growth. Green Economy is also considered as a crucial part of fulfilling the SDG’s objective of sustainable and inclusive economic growth by reviving the economy through carbon independence and ecosystem improvement.
- The first blueprint for a Green Economy was published in 1989 but was only brought into focus after the 2008 financial crisis. Periods of crisis are especially fruitful for critical counter-hegemonic approaches, as these periods appear when universal norms and their complementary institutions lose their legitimation or their function to solve international issues.
- Green Economy is implemented via “passive revolution,” where the dominant class implement this without actual transformational change. The Green Economy concept does not deal with the contradictions of capitalist production and consumption pattern but puts a veil of green investments to give the impression that they (national and multilateral institutes) are managing current multiple crises.
- A Green Economy would only reduce the current multiple crisis in a spatial and socially uneven way because: The market is still the main force of innovation for Green Economy and these markets are characterised by inequality among classes/ethnicity/gender/regional and even international relations; and simple transformation to a carbon-independent economy without changing the hegemonic world order would only benefit the Global North, and to some extent developing nations. An actual transformation will need integration of the Global South into neo-liberal capitalism.
- The main reason for its failure is that the Green Economy still operates within a capitalistic mode of production.

Nørgård, J.S., 2013. Happy degrowth through more amateur economy. *Journal of Cleaner Production*, *38*, 61-70.

Abstract

This paper outlines a simple, aggregate, descriptive model of what is here termed a "whole economy", covering all human involvement in the economy, from ultimate means or ecological sacrifices, to the ultimate ends of human satisfaction. The model embraces not only the formal "professional economy" driven by money, but also the parallel non-paid, voluntary economy, here termed "amateur economy", driven by peoples' affective motivations. The input of work to the economy plays an essential role in the paper's analysis of options for reducing ecological sacrifices. Hence, part of the paper is devoted to a brief historical overview of the role of work, including turning points in the 1930s in the United States, when work sharing was displaced by work creation through consumerism, and, in the post-war economy when GDP became the dominant economic indicator. The paper proposes the aim of a happy and sustainable degrowth for affluent countries, implying the transfer of some activities from the professional economy to the less 'labour' productive amateur economy. This will tend to reduce overall labour productivity and hence resource throughput, but increase satisfaction and happiness. A key element in the analysis is combining a reduction in consumption with a reduction in production, which is obtainable through lowering either working time or work productivity and turning some of the leisure time into voluntary activities. Economic growth is not a law of nature but the consequence of explicit political decisions taken. Hence growth is also open to new political decisions in recognition of physical limits to growth and the human quest for replacing economic growth with life satisfaction, including increased free time.

Key points

- Reducing paid work time and consumption can help mitigate environmental pressure, while at the same time improving people's general well-being. The amateur voluntary economy is a source of direct personal satisfaction while in the professional economy, monetary compensation is provided to enable people to purchase satisfaction.
- The 40-hour work week suggests leisure should be less time intensive and more goods intensive/commercial. People cannot simply choose to work fewer hours because the labour market is not free, so often there is only a choice between 40 hours a week or zero.
- A common misinterpretation is that if people's preferences for more leisure are fulfilled, then they will consume more. In principle, this is not possible. If people choose to turn productivity gains into more leisure *instead* of more income, they can't have both, and their consumption will remain constant.
- Reducing work hours in the professional economy affects energy consumption and other environmental impacts, e.g. shorter time at the workplace reduces energy consumption; income, and therefore consumption, including energy, will be reduced; extra leisure time may require more energy, but the amount will depend on how leisure is spent. Time added to the amateur economy can produce low energy outputs within sectors like transport, food and care that substitute for higher energy outputs from the professional economy.
- Since the rate of energy and material throughput is a major source of environmental impact, 'slowing down' in general may be considered a necessary strategy to achieve sustainability through degrowth.

Rees, William E. (2019). End game: the economy as eco-catastrophe and what needs to change. *Real-World Economics Review, 87*, 132-148.

Abstract

Gross human ecological dysfunction is a genuine global meta-problem; it is potentially fatal to civilization and, paradoxically, entirely self-induced. Which begs the question: how is it that the allegedly most intelligent and self-aware species on Earth is systematically destroying its own habitat, the only human-habitable planet in our solar system and the only planet most humans will ever know? The answer is, of course, multifaceted with roots in everything from what was once perfectly adaptive human behaviour, through Newtonian physics, to culturally inscribed (mis)representations of reality. We can show how several of the most important causal mechanisms have come together to produce a global economic system whose conceptual framing, operating assumptions and de facto practices are pathologically incompatible with the very ecosystems that sustain it. In the circumstances, eco-destruction is inevitable.

Key Points

- All cultural narratives, worldviews, religious doctrines, political ideologies and academic paradigms are social constructs. The terms “capitalism”, “communism”, “civil rights”, and “democracy,” for example, have no true analogues in the non-human world. These and similar concepts are created entirely through socio-political discourse.
- Since humans are of the ecosphere, and the economy extracts resources (energy and materials) from the ecosphere, economics should arguably be a branch of human ecology. However, the two concepts have been merged since the beginning.
- Neoliberal theory lacks any realistic representation of the energy and resource constraints, functional dynamics, social relationships, interspecies dependencies and time-dependent processes at the heart of ecosystems thinking.
- Society views the economy as a separate system functioning independently of the ecosphere. The ecological perspective describes a more dynamic and potentially dangerous world in which the human enterprise is a fully embedded completely dependent sub-system of the ecosphere. In this framing, the need to maintain ecospheric integrity (climate stability, adequate biodiversity, etc.) is an absolute and there are clearly limits to material growth.

Sandberg, M., Klockars, K., & Wilén, K. (2019). Green growth or degrowth? Assessing the normative justifications for environmental sustainability and economic growth through critical social theory. *Journal of Cleaner Production, 206*, 133-141

Abstract

Scientists agree that changes in the organization of human society and economy are needed to stop the degradation of the natural environment. The most commonly proposed solution, green growth, has been increasingly criticized, but the offered alternative of degrowth has remained a marginal undertaking in academia and in practice. This article further develops the argument for degrowth. The article conducts a comparative analysis of the normative foundations of green growth and degrowth using frameworks from critical social theory. The analysis shows that green growth and degrowth work toward different normative ideals that are justified in different ways. The analysis shows that degrowth has a stronger normative justification than green growth and therefore, should be preferred. The article contributes to the debate about green growth and degrowth by establishing normative grounds for focusing efforts for environmental sustainability on degrowth rather than green growth.

Key Points

- Green growth mainly relies on technological and market innovations to improve the efficiency of production and decouple the use of natural resources and environmental impacts from continued economic growth. It preserves the growth paradigm and capitalist system by not requiring substantial changes in consumption patterns.
- Degrowth questions the viability of continued economic growth and argues that the sustainable use of natural resources requires more fundamental changes to the organization of society, including substantial reductions in production and consumption levels in developed countries.
- Though research indicates that green growth is highly unlikely to succeed in stopping environmental degradation, as the prioritization of economic growth suppresses environmental goals, it is widely accepted and promoted. Degrowth, despite the weight of research supporting its efficacy, is hardly recognized as an alternative.
- Degrowth identifies environmental preservation, along with human well-being and social equity, as the primary normative ideal to which the structuring of the economy must adhere.
- Green growth and degrowth work toward different normative ideals that are justified in different ways. Although both hold environmental preservation as a normative ideal, green growth was shown in practice to prioritize the normative ideal of economic growth, while degrowth prioritizes environmental preservation.
- As a normative vision for the future, green growth lacks a strong normative foundation to justify its dominant position as a solution to environmental sustainability and strengthens the argument for degrowth.
- The vision of degrowth is still under development. However, given its potential for success, environmental sustainability practice, academia and international policy-makers should shift their focus from green growth to degrowth.

Schröder, P., Bengtsson, M., Cohen, M., Dewick, P., Hofstetter, J., & Sarkis, J. (2019). Degrowth within–Aligning circular economy and strong sustainability narratives. *Resources, Conservation and Recycling*, *146*, 190-191.

Abstract

This perspective calls for building a greater understanding of overlapping and conflicting considerations between the sustainability principles that inform current conceptions of circular economy and degrowth. We contend that scholars and practitioners need to be pragmatic and to recognize evident ideological differences, but simultaneously to acknowledge beneficial similarities and complements. The common aim of both frameworks – to change business-as-usual and to enable human society to operate within ecological planetary boundaries – will likely engender opportunities to formulate new solutions. Management of the inherent tensions, such as the scale and scope of rebound effects, will continue to pose challenges. However, with thoughtful dialogue, commitment to respectful discourse, and more refined articulation, we are confident that progress will be made. By building on synergies and seeking holistic strategies, the academic community, along with its transdisciplinary partners, can advance strong global sustainability efforts.

Key Points

- The similarities and differences between the circular economy and the degrowth concept are examined. Circular economy and degrowth share a number of important principles to support sustainability, so it is important to focus on the common aim of both approaches rather than polarize those principles.
- The authors use the IPAT equation to illustrate how degrowth and circular economy are different but complement each other. In the IPAT equation, environmental impact (I) is a function of population (P), affluence (A), and Technology (T). Degrowth focuses on affluence and tends to doubt that technological solutions are sufficient to address the environmental problem, whereas the circular economy is optimistic about the potential of technological improvement.
- Challenges of the circular economy which are yet to be resolved are:
  - There is no agreement about the social dimension in the circular economy and how it may affect issues like inequality.
  - There is uncertainty on units of analysis and metric which translate from linear to a circular model
  - There is no clear explanation about how to avoid lock-ins and deal with trade-offs
  - There is a potential rebound effect known as Jevon's Paradox, where technology efficiency is offset by growth in usage.
- Degrowth can and should be contributed to circular economy principles, as circular economy supports the degrowth concept by limiting the usage of natural resources and preventing waste.
- The authors conclude by emphasizing the need to be pragmatic. It is not realistic to expect the circular economy, degrowth, or any sustainability philosophy to be all encompassing. Each conception and action will have limitations, blind angles, and unintended consequences. What is important is awareness of these limitations; and to explore how different approaches can build synergies through holistic strategies.

Stoknes, P.E. and Rockström, J. (2018). Redefining green growth within planetary boundaries. *Energy Research & Social Science,* 44, 41-49.

Abstract

Over the last decade, green growth policies have drawn increasing interest. OECD, UNEP, the World Bank and the EC have had several initiatives on the issue, and the Nordic countries have a special program on it. Definitions and indicator sets have been developed, though critics have pointed out that most initiatives amount to little more than a greenwashing of conventional economic growth. The paper proposes and discusses two definitions of green growth, one weak and one strong. Both build on resource- and carbon productivity measures, but whereas the weak definition requires absolute decoupling, the strong or "genuine green growth" requires sufficient decoupling to achieve science-based targets for planetary boundaries. The approach is tested at country levels, starting with the climate boundary, by analysing progress on carbon productivity ("CAPRO") in Nordic countries since 2000. Results show that so far, among Nordic countries, Sweden, Finland and Denmark have achieved genuine green growth, while Norway has not. Implications for policy and communication of green growth are discussed.

Key Points

- There are various definitions of green growth, all of which say something about its intended direction (environmentally friendly and socially inclusive). However, these definitions lack a set of measurable criteria to assess whether economic growth is green enough to enable economies to evolve within the biophysical safe operating space of planetary boundaries. Science-based targets for stable Earth systems are required, which the authors define as "genuine green growth."
- This vagueness has led many critics to claim that "green growth" rhetoric often aims primarily at incrementally better efficiency and somewhat more sustainable consumption and production, but still disregards ecological limits. Therefore, it becomes in practice mostly a continuation of the conventional economic growth model under a new label.
- The authors propose a new definition: *Green growth is an increase in economic output that lowers total environmental footprint.*
- They contrast this grey growth, which can be defined as: *an increase in economic output that also increases the total environmental footprint*. Here the environmental footprint grows in spite of a somewhat improved resource productivity. What is currently labelled as green growth often becomes grey growth.
- This new clarification of green growth can provide a psychologically supportive "win-win" frame (which avoids the aversion politicians and citizens have to cut and loss ideas like degrowth). However, this green growth framing must be credibly linked to science-based targets.
- The authors describe a possible way to develop a genuine green growth methodology using carbon productivity indicators and apply these indicators to Nordic countries.

Trainer, T. (2020). De-growth: Some suggestions from the Simpler Way perspective. *Ecological Economics,* 167(106436).

Abstract

It is argued that there are some important issues which the current degrowth literature neglects. The first is the sheer magnitude of the global predicament, which determines not just the insufficiently recognized difficulty of the transition task but also that the goals and means must take particular and largely unrecognized forms. The goal cannot be reform of the existing society; it must be transition to a radically different kind of society, one labelled here as a radically Simpler Way. Current discussion indicates little recognition of this point. Similarly, there are coercive logical implications for transition strategy, and these indicate that currently dominant transition assumptions are mistaken. The key element is not economic or political change, it is cultural change. These claims are shown to be logically implied by basic limits to growth considerations.

Key Points

- While degrowth literature is by definition aware that the economic system is unacceptable because of its commitment to growth, it does not exhibit a clear or unified orientation to the basic form of the economy, i.e., the fact that it is a capitalist economy and thus operates according to market principles. Some contributors endorse the market and believe that a satisfactory de-growth economy can be a capitalist economy.
- The author argues that these assumptions are mistaken, and thus degrowth must become understood as an unambiguously anti-capitalist position. Capitalism is all about accumulation and in a zero-growth (steady state) economy there can be no accumulation.
- The degrowth literature includes wide discussion of possible alternative structures and procedures, but these are not derived from the necessary diagnostic analysis of the current economy's core assumptions, and as a result they are typically problematic.
- The Simpler Way envisions a radically different culture where the focus of society is on non-material sources of life satisfaction, and where cooperation and collective choices have more importance than individual desires.
- This means that the new economy will be small compared with the present one; it will not be driven by profit or market forces and will not grow. It will ensure that the rights, justice, and welfare of the population and ecological sustainability are primary concerns.
- The main concern of the Simpler Way project has been to show that a society of this kind would function well, could be easily built, and would provide a higher quality of life than most people experience in rich-world societies today.

Urmee, T., Anda, M., Chapman, A., & Anisuzzaman, M. (2017). Green Growth in cities: Two Australian cases. *Renewable Energy and Environmental Sustainability, 2*, 43.

Abstract

Green Growth (GG) is about decoupling emission intensity from economic growth, which can be achieved by fostering positive economic growth through resource-efficiency, cleaner environment and increased resilience to climate change. Cities play an important role in economic development, as they are inhabited by a large proportion of the global population in a relatively small land area and cities are the wheel of the economy of a country. Implementation and measurement of GG in cities is challenging as the regulatory framework, roles and responsibilities to the citizen and the encompassing environment of cities differ significantly. This can be addressed by identifying a set of GG indicators that are relevant to target cities, which would be used by the cities to implement programs and policies, and to measure progress and performance. Australia is situated in an environment somewhat disconnected from the rest of the world, which is home to unique biodiversity and vulnerable ecosystems. The regulatory and institutional framework of Australian cities is different to many other cities in the world in terms of their obligations to the community and the environment, and the level of law enforcement, particularly in areas that are relevant for GG. This paper reviews the available GG indicators in cities and assesses the applicability of those indicators against the regulatory and institutional framework of Australian cities. The application of the proposed set of indicators to the City of Melbourne and the City of Perth helped to validate the appropriateness of those indicators and to assess the performance of the cities in relation to GG. It appears that the cities are performing well in some areas and need improvement in others. The cities also need to mainstream the GG indicators and to align their data measurement and recording systems in line with the proposed GG indicators.

Key Points

- Worldwide green growth indicators are grouped under the following categories:
  - Built environment, e.g. extent of built-up area, % of population living near green space, proportion of redeveloped brownfield sites, and protected land protected from urban development.
  - Climate and energy, e.g. green technologies, building energy consumption rate.
  - Biophilia, e.g. urban greenery.
  - Transport and traffic, e.g. share of cars per capita and growth rate, ozone levels, hybrid and EVs, levels of public transport, bicycle use and walking.
  - Waste, e.g. recycling levels, landfill rates and percentage of household waste
  - Water, e.g. domestic water consumption, drinking water quality standards, grey water systems in households/buildings, urban wastewater treatment policy
  - Economic growth e.g. increases in employment, investment, net export value.
- Developing a GG framework that fits all cities is difficult due to variation in administrative size and structure, variation in institutional frameworks of cities, the way and extent that urbanization takes place, and the environmental and socio-economic impacts the city would be facing. Even within countries these factors can vary widely.
- Not all the indicators are applicable to Australian cities, mainly due to regulatory control in areas such as the industry sector.
- The two cities were found to be performing well in some areas, particularly in biophilia, climate and energy, water, waste and transport. They must align their programs, policies, data measurement and recording systems with the proposed indicators to be able to successfully implement and measure GG.

Van den Bergh, J. C. J. M. (2011). Environment versus growth — A criticism of "degrowth" and a plea for "a-growth". *Ecological Economics, 70*(5), 881-890.

Abstract

In recent debates on environmental problems and policies, the strategy of "degrowth" has appeared as an alternative to the paradigm of economic growth. This new notion is critically evaluated by considering five common interpretations of it. One conclusion is that these multiple interpretations make it an ambiguous and rather confusing concept. Another is that degrowth may not be an effective, let alone an efficient strategy to reduce environmental pressure. It is subsequently argued that "a-growth," i.e. being indifferent about growth, is a more logical social aim to substitute for the current goal of economic growth, given that GDP (per capita) is a very imperfect indicator of social welfare. In addition, focusing ex ante on public policy is considered to be a strategy which ultimately is more likely to obtain the necessary democratic–political support than an ex ante, explicit degrowth strategy. In line with this, a policy package is proposed which consists of six elements, some of which relate to concerns raised by degrowth supporters.

Key Points

- The author discussed the five interpretations of degrowth from literature: 1) GDP degrowth; 2) Consumption degrowth; 3) Work-time degrowth; 4) Radical degrowth; and 5) Physical degrowth. These were analysed in light of their effects on sustainability and their socio-political feasibility.
- Overall, degrowth was considered to have low socio-political feasibility and its effectiveness in improving environmental sustainability is uncertain.
- Gaining democratic support for effective environmental policies will result in better outcomes.
- Six complementary strategies are proposed to implement effective environmental policies, including a call to move away from using Gross Domestic Product (GDP) as the main growth indicator of a country, an approach he labelled "a-growth".
- The six strategies are:
    - Recognise the importance of effective international climate agreements as tools to provide a level playing ground for all countries to compete and set national environmental policies;
    - Encourage shorter working hours to lessen consumption and increase wellbeing;
    - Regulate commercial advertising to take into account the social costs of irresponsible advertising, especially for status goods; and impose tax or price regulations on status goods which harm the environment;
    - Increase awareness of responsible consumption through better communication and information flow;
    - Encourage decision-makers and media to ignore GDP indicators (a-growth) and be more relaxed about growth or satisfied with slower growth; and
    - Implement 'technology-specific policies" to encourage more research into green technology.

Van Griethuysen, P. (2010). Why are we growth-addicted? The hard way towards degrowth in the involutionary western development path. *Journal of Cleaner Production, 18*(6), 590-595.

Abstract:

By questioning the origins of the inertia facing the degrowth movement, this contribution identifies property as the constitutive institution of capitalism, and property expansion as the dominant socioeconomic process leading world societies to economic path dependence, techno-institutional lock-in and eco-social impasse. Demonstrating why and how property-based economic rationality subordinates ecological and social considerations to capitalist requirements, this paper stresses both the need for an inversion in the hierarchy of social norms and the systemic opposition to such an inversion, which emanates from the capitalist/industrial expansion. The text also brings to light some disregarded processes underlying the current economic crisis, by pointing out the institutional and technological locked-in situation into which the western development path has led our societies.

Key Points

- Despite the longstanding recognition of the limits to growth, the economic system is more dependent than ever upon the exploitation of natural and human resources.
- The specific economic rationale of capitalist expansion that keeps the economy bound to growth is analysed and broken down into six areas: Property as the constitutive institution of capitalist economies; the potentials and constraints of the credit relation; the capitalist economic rationality and the subordination of eco-social considerations; materialising growth, eco-social repercussions and the need for social hierarchy inversion; the self-expansion of the property economy; and global capital and the pecuniary magnate.
- As the property economy expands through capitalisation and competition, the specific selection criteria of property (solvability, profitability and time pressure) spreads throughout society, reinforcing the role of property as the selective criteria of economic competitiveness and, more broadly as a central institution in the organisation of society.
- Such an institutional path-dependency has been strengthened and further accelerated by the industrial mode of development, which provided unprecedented responses to the particular pressures of property, along with industrial society's fundamental dependence on mineral resources.
- In such a process, every option that shows incompatibility with property requirements is discriminated against, and every proposition for alternative development paths is eluded. Degrowth proposals, which aim to reduce the economic throughput and promote responsible consumption and voluntary simplicity as demand-side alternatives to consumerism, are unsurprisingly confronted by systematic and systemic discrimination.
- While the current financial crisis might appear to be a possible ally in the quest for challenging the dominancy of normative capitalist hierarchy, the deepest roots of the crisis would need to be identified, analysed and vocalised.
- Understanding the institutional and technological locked-in situation into which our societies have been led by the western path of economic development, both capitalist and industrial, seems to be a prerequisite for any socioeconomic reorientation towards sustainable development.

Jin Xue (2014). Is eco-village/urban village the future of a degrowth society? An urban planner's perspective. *Ecological Economics*, 105, 130-138.

Abstract

In the degrowth literature, relocalization is widely considered as a strategic approach to transition to a degrowth society, and eco-village/urban village is argued to be the spatial organization suitable for implementing localism. These debates on eco-village/urban village as a vision for long-term sustainability have profound implications for the spatial development of our society. This paper aims to challenge this proposition from an urban planner's perspective by dwelling on spatial implications and planning process. It is argued that spatial decentralization can lead to various social and environmental consequences contradicting the multi-goals of a degrowth society. Localizing and decentralizing decision making in the planning process does not necessarily lead to a just and sustainable society. Instead, it is of importance to have multi-scalar strategies in the planning context to pursue degrowth. The paper concludes by pointing out the complex relation between paradigmatic societal transformation and spatial development, and the significant role that urban planning can play in the transition to degrowth.

Key Points

- Relocalization – producing and consuming local goods and services, and making political and cultural decisions at the local level – is widely accepted as a degrowth approach.
- Urban or eco-villages are held to manifest this idea of localism. Decentralized human-scale settlements can be better connected to their environment, different functions and mixtures of land use can create jobs and meet consumption needs, social relationships are strengthened, and conscious and responsible autonomy is encouraged. Finally, the urban village and eco-village allow political relocalization reliant on deliberative or participatory democracy.
- However, looking at these villages from an urban planner’s perspective in terms of their spatial implications reveals weaknesses and adverse environmental impacts. For example, large mass production firms and other functions in our society such as universities or hospitals cannot be located in one small village.
- The author suggests that the compact city, a concentrated urban developmental pattern, can help solve these issues. The compact city can decrease distance for commuting; protect agricultural land, natural landscape and biodiversity; revitalize community life and develop non-material social relationships; and increase opportunities to interact with people.
- A smooth transition to degrowth requires a clear and coherent picture of what a degrowth society is. All aspects of society must be considered. This requires an interdisciplinary approach, with particular input from urban planners. More research on the spatiality of degrowth and more recognition and integration of the work that has already been done within the planning profession is necessary.
- Since the values in a degrowth society are so distinct from the current society, planning practitioners need to be more critical and evaluative of the present non-sustainable urban development practices that are against the goal of sustainability and equity.

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